Oberthur's Reply to Leighton's Opposition Claim Chart
in Support of Oberthur's Summary Judgment Motion for Invalidity

Leighton's claim chart filed with its Memorandum in Opposition to Motion for Summary Judgment of Patent Invalidity ("Opposition claim chart") addresses only those claims and claim elements that Oberthur argued were invalid solely because of the teachings of the Oakwood prior art (Oakwood Series 6 Brochure, the Oakwood Sales Brochure and the Oakwood Instruction Manual). Leighton completely omitted all discussion of other prior art.

The following chart consolidates in one document Oberthur's contentions in its moving claim chart, Leighton's Opposition claim chart, and our reply to Leighton's Opposition claim chart. Oberthur highlights in yellow all material that Leighton omitted from its Opposition claim chart. The third column of the chart duplicates the last column in the Opposition claim chart and inserts, highlighted in yellow, those items that Leighton omitted from the last column of our moving claim chart. Accordingly, the third column in the following chart has all the material from the last columns of both our moving claim chart and the Opposition claim chart. In the last column of the following chart Oberthur replies to those claims and claim elements for which Leighton provided rebuttal. Also in the last column Oberthur specifies the motivation to combine the Oakwood Brochures with the remaining prior art.

U.S. Pat. No. 5,817,207

Reference Key:
- 1987 Oakwood Series 6 Brochure ("OS6B")
- 1987 Oakwood Sales Brochure ("OSB")
- OS6B and OSB collectively referred to as the "Oakwood Reference"
- 1991 Oakwood Series 6 Instruction Manual ("OIM")
- Haghiri – Tehrani et al., U.S. Patent No. 4,450,024 (" '024 patent")
- Templeton, Jr. et al., U.S. Patent No. 5,519,201 (" '201 patent")
- Lyszczarz, U.S. Patent No. 4,897,533 (" '533 patent")
- Japanese Patent Application Publication H6-176214 ("JP '214")
- Hida et al., U.S. Patent No. 4,841,134 (" '134 patent")

Claims (missing claim elements are highlighted in green or red)	**Prior Art**	**Application of Prior Art** (missing claim elements are highlighted in green or red)	**Oberthur's Reply**
1. A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:	'024 patent 1987 Oakwood Series 6 Brochure	"electronic element" – IC module 5 (Sharinn Ex. 14, '024 patent, col. 3, lines 10-11, Fig. 1; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "electronic element" – inductive codings or microchip (Sharinn Ex. 10, OS6B at 4, see illustration and text under heading "Machine Reading Applications"). ***This reference does not disclose an***	OS6B discloses not one but two

		electronic element. **Q.** Do these inductive coils that are shown here in the illustration that was attached to your declaration as paragraph 9 use a semiconductor device? **MR. GASPARO**: The objection stands. **A.** Not to my knowledge. **Q.** And they don't have any terminals, do they? **MR GASPARO:** Objection. **A.** My opinion -- your definition of a terminal? **Q.** An end point. **MR GASPARO:** Objection. **A.** That's not my definition of a terminal, but do they have an end point? Some of them, I believe, do. **Q.** Can you connect these? Can you connect the inductive coils to other components to form a circuit, in your view?	"electronic element[s]" –a microchip and inductive codings. <u>Microchip</u> Leighton does not rebut the reference to a microchip in OS6B and that a microchip is an "electronic element": "Oakwood technicians … have packaged the most sophisticated micro chips within the core structure of a card." Sharinn Ex. 10, OS6B at 4. <u>Inductive Codings</u> Leighton's rebuttal appears to be inductive codings are not an "electronic element" because these codings do not use a semiconductor device and cannot be connected to other components to form a circuit. Leighton solely relies on a snippet of quoted testimony by Mr. Mosteller. Leighton's reliance is incorrect and misleading. Mr. Mosteller subsequently clarified his earlier testimony when examined by Mr. Gasparo. Indeed, Mr. Mosteller testified that the inductive coding in combination with a reader form a circuit and the reader could include a semiconductor device: Q. In your declaration, which has been

		MR GASPARO: Objection. **A** In my view, a terminal is a point where you make an electrical connection and an electrical connection can be made at the end. If a coil was broken or if a coil is whole, you can tapthecoil (sic). **Q.** Is that what you believe they're showing here? **A.** I can't tell from the drawing. **Q.** Just not enough information provided here? **MR GASPARO:** Objection. **A.** I can't see the bottom. November 22, 2005 Deposition of Barry Mosteller ("Mosteller Depo."), 51:18-52:25.	marked as Exhibit 1100, in paragraph 16 you indicate the induction varies and the reader decodes the information encoded on the machine readable card. Based on what has been marked as Exhibits 1103 and 1104, described to an ordinary skilled person in the art, could the reader include a semiconductor device? A. Yes. … Q. Do you believe the inductive codings illustrated in the card set on page, I believe, 4 in combination with the reader form a circuit? A. The card would be inductively linked to the reader, so there would be an inductive linking between the two, and yes, that would be a circuit. November 22, 2005 Deposition of Barry Mosteller ("Mosteller Depo."), 99:8-100:11. The Court's definition of "electronic element" does not require a circuit or a semiconductor to be embedded in the

		This reference does not teach how to incorporate an electronic element in the manufacture of a plastic card **Q.** Right. But this document, 1103 [OS6B], does not show expressly how to embed a chip? **A.** No. November 22, 2005 Deposition of Barry Mosteller ("Mosteller Depo."), 67:3-6.	plastic card. Leighton does not rebut that OS6B describes and illustrates incorporating inductive codings in the manufacture of a plastic card. Leighton only relies on testimony by Mr. Mosteller referring to a chip. Mr. Mosteller only testified that OS6B does not expressly show how to embed a chip. OS6B, however, does expressly describe embedding a chip and implicitly teaches to a person of ordinary skill in the art replacing the inductive codings with a chip. An express teaching is not required. Moreover, an inherent teaching is sufficient. *See Continental Can Co. v. Monsanto, Inc.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991).
	Cumulative JP '214	Cumulative "Japanese Patent '214 taught a process for forming a smart card which included the steps of laminating with heat and pressure an assembly which included an IC chip 11 and a thin coil 12 (an antenna)." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(a) providing first and second plastic core sheets;	'024 patent	"first and second plastic core sheets" – cover films 12, 13 (Sharinn Ex. 14, '024 patent, col. 3, lines 50-53; Sharinn Ex. 23,	

		Office Action mailed 9/8/97, see OCS_C_045587-92).	
	1987 Oakwood Series 6 Brochure	"first and second plastic core sheets" – second opaque plastic layer and substrate beneath inductive codings (Sharinn Ex.10, OS6B at 4, see illustration).	
	Cumulative JP '214	Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;	'024 patent	"positioning …" – IC module 5 (placed in carrier element 6) is illustrated as being positioned between cover films 12, 13 (Sharinn Ex. 14, '024 patent, Fig. 2a; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92).	
	1987 Oakwood Series 6 Brochure	"positioning …" – inductive codings are illustrated as being positioned between second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration).	
	1987 Oakwood Series 6 Brochure	"in the absence of a nonelectronic carrier" – inductive codings are illustrated with no protection (Sharinn Ex. 10, OS6B at 4, see illustration).	

		This reference does not teach positioning an electronic element "in the absence of a non-electronic carrier" • There is no evidence that the illustration cited in this reference does not include a cavity or protective layer for protecting the inductive codings from heat and pressure during the lamination process. • The conclusory statements provided by Oberthur are not	Oberthur does not have an obligation to set forth what OS6B does not teach. Rather, Oberthur must set forth what OS6B does teach, either expressly or implicitly, to a person of ordinary skill in the art. Oberthur sets forth these teachings in support of its arguments in its moving papers. The card set illustration in OS6B is extremely informative. Like Mr. Leighton said "pictures tell a thousand words." Deposition of Keith Leighton, October 10, 2005, 57:7-8. There is not even a suggestion in this illustration, or elsewhere in OS6B, that the inductive codings are protected by a cavity, by a protective layer or in some other way. Indeed, the inductive codings are depicted as coils without any visible protection and therefore, at the very least, provide an express teaching of no protection. Oberthur has not provided conclusory statements; Oberthur has described in

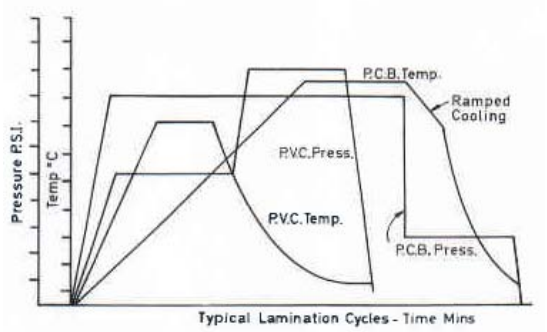
		sufficient to show that this illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way.	words what is depicted by the illustration. Mr. Mosteller also underwent a similar exercise in his declaration. This statement is unsupported. Further, to the extent Oberthur understands this statement, the picture alone does not have to "enable a person having ordinary skill in the art to laminate a card in such a way". *See, e.g., Novo Nordsk Pharmaceuticals, Inc. v. Bio-Technology General Corp.*, 424 F.3d 1347, 1355 (Fed. Cir. 2005) (declaring that "anticipation does not require actual performance of the suggestions in a disclosure"). The illustration is extremely informative; it depicts in detail each of the card layers. The Oakwood lamination cycle diagram shown in OSB provides a recipe for laminating these card layers.
	1987 Oakwood Series 6 Brochure	"directly" – inductive codings are in immediate physical contact with second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference also does not teach positioning an electronic element***	

		"directly between said first and second plastic core sheets"	
		• Again, there is no evidence to show that the illustration cited in this reference positions the inductive codings directly between plastic core sheets.	OS6B teaches, expressly or at least implicitly, that the layers of the card set come together. When those layers do come together (which is easily visualized looking at the illustration), the inductive codings are sandwiched between (in immediate physical contact with) the plastic substrate and the second opaque plastic layer. The card set illustration in OS6B is extremely informative. Like Mr. Leighton said "pictures tell a thousand words." Deposition of Keith Leighton, October 10, 2005, 57:7-8. Leighton has not come forth with any evidence even suggesting that the inductive codings are not positioned directly between the plastic substrate and the second opaque plastic layer.
		• The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element.	Oberthur has not provided conclusory statements; Oberthur has described in words what is depicted by the illustration. Mr. Mosteller also underwent a similar exercise in his declaration.

		• The picture alone is insufficient to enable a person having ordinary skill to laminate a card in such a way.	This statement is unsupported. Further, to the extent Oberthur understands this statement, the picture alone does not have to "enable a person having ordinary skill in the art to laminate a card in such a way". *See, e.g., Novo Nordsk Pharmaceuticals, Inc. v. Bio-Technology General Corp.*, 424 F.3d 1347, 1355 (Fed. Cir. 2005) (declaring that "anticipation does not require actual performance of the suggestions in a disclosure"). The illustration is extremely informative; it depicts in detail each of the card layers. Furthermore, the Oakwood lamination cycle diagram shown in OSB provides to a person of ordinary skill in the art a recipe for laminating these card layers.
	'024 patent	"core" – cover films 12, 13 and IC module 5 form the "core" (Sharinn Ex. 14, '024 patent, Fig. 2a; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92).	
	1987 Oakwood Series 6 Brochure	"core" – second opaque plastic layer, inductive codings and substrate form the "core" (Sharinn Ex. 10, OS6B at 4, see illustration).	

	1987 Oakwood Series 6 Brochure Cumulative JP '214	"a pair of inner and outer surfaces of said core" – outside surface of second opaque plastic layer and outside surface of substrate are illustrated (Sharinn Ex. 10,OS6B at 4, see illustration). Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:	'024 patent 1987 Oakwood Series 6 Brochure	"positioning said core in a laminator apparatus" – "FIGS. 2a and 2b show the first embodiment of the invention before and after the laminating process" (Sharinn Ex. 14, '024 patent, col. 3, lines 45-49; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "positioning said core in a laminator apparatus" – second opaque plastic layer, inductive codings and substrate can be positioned in the Series 6 laminator: "Many of the more sophisticated cards are made possible due only to the flexibility of the heat and pressure system which is a major feature of the Series 6 Laminators." (Sharinn Ex. 10, OS6B at 3, 4 see illustration).	

	1987 Oakwood Series 6 Brochure Cumulative JP '214	"heat and pressure cycle" –"[h]eat and pressure are applied" to second opaque plastic layer, inductive codings and substrate (Sharinn Ex. 10, OS6B at 3). Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(i) heating said core for a first period of time;	'024 patent 1987 Oakwood Sales Brochure	"heating said core for a first period of time" – "In the further course of the laminating process the card composite is gradually heated up so that the PVC-layers soften." (Sharinn Ex. 14, '024 patent, col. 3, lines 63-65; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "heating said core for a first period of time" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). **This reference teaches applying a pressure phase first.**	Oberthur fully responds to this argument in its reply memorandum. Not only is this claim devoid of any language that precludes a pressure (even an encapsulation pressure) from being applied during the first period of time, the diagram indeed teaches heating the core for a first period of time and thereafter applying an encapsulation



P.V.C. P.C.B. Cycle Curves

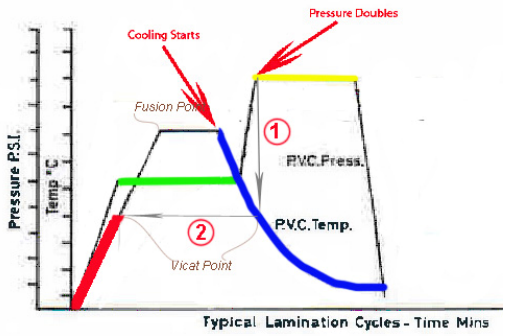
Q. So, when you say, "Sequence of events", do you mean that at first the low pressure would occur, and then the lamination temperature being increased and held to the fusion point would occur, then there would be the hold point? Is that what you mean?

A. That is correct.

November 16, 2005 Deposition of Richard Smith ("Smith Depo."), 59:22-60:2.

A. We have defined, in our earlier conversation, that we are using a low pressure and a high pressure. Therefore, point T1 is where it reaches its initial low pressure, and then waits for the pressure for a second period of time.

Leighton apparently relies on Oberthur's color coded diagram for support because the second period of time (green line) is depicted as beginning before the first period of time (red line) ends. *See* Oberthur's Memorandum In Support Of Motion For Summary Judgment Of Patent Invalidity ("Oberthur's Memorandum"), p. 21. This reliance is misplaced. As shown in the following slightly modified diagram, since the claim does not specify when the first period ends, Oberthur could have just as easily ended the first period of time (red line) at the position where the second period of time (green line) commences:



P.V.C.

		temperature in the product to rise to its fusion temperature. Smith Depo., 61:20-24.	Accordingly, OSB teaches heating the core for a first period of time and thereafter applying an encapsulation pressure for a second period of time. In its reply claim chart, Leighton also tries to find support for its argument from Mr. Smith's deposition testimony. Mr. Smith's testimony, however, actually supports a position quite favorable to Oberthur –the Oakwood lamination cycle diagram teaches that the encapsulation pressure (green line) begins when the PVC material begins to soften. Based on the selected text from the transcript, Leighton implies that the "fusion point" (labeled in the above diagram) referred to by Mr. Smith corresponds to the point at which the plastic material softens and before that point is reached a "low pressure" (an encapsulation pressure – green line) is applied. Leighton misinterprets Mr. Smith's testimony. Mr. Smith clearly distinguished between the fusion point (the temperature at which layers bond together) and the Vicat point (the temperature at which the plastic begins

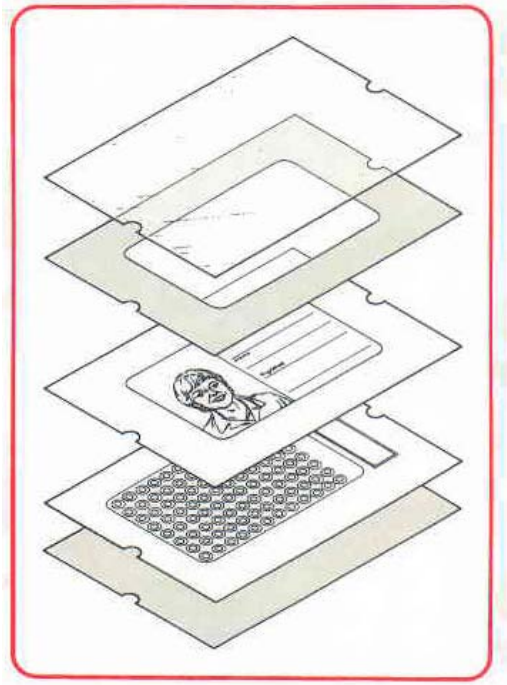
			to soften). He testified that the Vicat point is prior to the fusion point (lamination temperature): "A. That Vicat point refers to the softening temperature of the material, not to be confused with the fusion point. At the Vicat point it means that by applying pressure you can successfully deform the very surface of the PVC to create a smooth plastic finish. Where we referred earlier to T2, ie. The lamination temperature, this could be some 30 degrees centigrade higher than the applicable Vicat point for a given material. Therefore, the temperature has to drop from the fusion point to the Vicat point before applying the high pressure." Smith Depo., 66:19-67:5. Mr. Smith testimony explains that the high pressure is applied when the PVC sandwich cools to the Vicat point temperature. Thus, the Vicat point can be determined by drawing a line (line 1) down from the point at which high pressure is applied and noting where that line intersects the cooling curve. The temperature at that intersection is the Vicat point. Similarly, the Vicat point during heating can be determined by

			drawing another line (line 2) across and determining where that line intersects the heating curve. According to the above-quoted testimony of Mr. Smith, the PVC material begins to soften at this Vicat point. As the chart illustrates and as Mr. Smith testified, the Vicat point is cooler than the fusion point. As a result, the PVC material begins to soften along the temperature ramp before reaching the plateau portion (fusion point). Hence, as can be seen in the above annotated diagram, the application of the encapsulation pressure (green line) begins when, ***and not before***, the Vicat point is reached during heating. In sum, the Oakwood Reference and Mr. Smith's testimony do not support Plaintiff's otherwise unsupported argument that the Oakwood Reference teaches applying an encapsulation pressure before the heat softens the plastic.
	Cumulative JP '214	Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	

(ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;	'024 patent	"applying a first pressure … for a second period of time" – "The laminating pressure will thus be increased as a function of the temperature …, but on the other hand the carrier element is subjected to the full laminating pressure in the final phase of the laminating process, after the card layers have softened. By use of the method of controlling the laminating pressure as a function of the temperature, integrated circuits can be embedded in identification cards undangerously , without any need of additional measures." (Sharinn Ex. 14, '024 patent, col. 6, lines 37-46; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92).	
	1987 Oakwood Sales Brochure	"applying a first pressure … for a second period of time" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6 see diagram). ***This reference teaches applying a pressure phase first, then applying a heating phase*** **Q.** So, when you say, "Sequence of events", do you mean that at first the low pressure would occur, and then the lamination temperature being increased	[See above reply to (c)(i)]

		and held to the fusion point would occur, then there would be the hold point? Is that what you mean? **A.** That is correct. Smith Depo., 59:22-60:2. ***This reference also teaches encapsulating an electronic element during the heating phase, not during the pressure phase.*** **A.** We have defined, in our earlier conversation, that we are using a low pressure and a high pressure. Therefore, point T1 is where it reaches its initial low pressure, and then waits for the temperature in the product to rise to its fusion temperature. Smith Depo., 61:20-24. **Q.** Could you put a, "T2", right where the hold phase begins with regard to the temperature? What was the purpose of commencing the hold phase once you had achieved the point that was designated by T2 there? **A.** In starting the heating process, we are measuring the temperature of the	See above reply to (c)(i)]

		aluminum platten, not the plastic material itself. Therefore, T2 represents the point where the aluminum is to temperature. It then required a further period of time for that temperature to seep through to the centre of the plastic material. Many of the machines had multiple layers of cards within each platten opening, not a single card. … **Q.** Yes, that's right. So, fusion would occur at some point in time? A. That's correct, yes. Smith Depo. 63:17-64:5 & 65:5-7.	
	1987 Oakwood Series 6 Brochure	"electronic element is encapsulated by said core" – during lamination inductive codings are enclosed by second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***The illustration cited in this reference fails to disclose anything about encapsulation of the electronic element***	Encapsulation of the inductive codings is expressly, or at least implicitly, taught by the card set illustration and the lamination cycle diagram. The Court defined "encapsulated by" and "encapsulating" to mean "enclosed by"

	Cumulative JP '214	 Card set for machine reading application. Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7,Office Action mailed 12/6/00, see OCS_C_045446-58).	and "enclosing", respectively. OS6B and OSB teach laminating the card set having the inductive codings with the lamination cycle shown in OSB. When the plastic layers illustrated in the card set come together and heat and pressure are applied (as taught by the lamination cycle), the inductive codings will be "enclosed by" the inductive second opaque plastic layer and the plastic substrate. At a point during the lamination cycle, the plastic will soften and by exerting pressure the inductive codings will be enclosed by that plastic.
(iii) cooling said core while applying a second	'024 patent	"cooling … while applying a second pressure" – "In the cold state the carrier	

pressure to said core;		element 27 is hardly affected by the pressure of the laminating plate" (Sharinn Ex. 14, '024 patent, col. 5, lines 33-35; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92); "The laminating pressure will thus be increased as a function of the temperature …, but on the other hand the carrier element is subjected to the full laminating pressure in the final phase of the laminating process, after the card layers have softened. By use of the method of controlling the laminating pressure as a function of the temperature, integrated circuits can be embedded in identification cards undangerously , without any need of additional measures." (Sharinn Ex. 14, '024 patent, col. 6, lines 37-46; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "cooling … while applying a second pressure" – "P.V.C. Temp." and "P.V.C. Press. "curves of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
	1987 Oakwood Sales Brochure		
(d) coating at least one of said outer surfaces of said core with a layer of ink; and		Examiner indicated "Although the reference does not specify the application of a printing layer in the manner recited in the claim, absent any evidence to the contrary, it would have been obvious to	

		one of ordinary skill in the art to apply any layer to those already present in the card during lamination, the application of a printing layer being considered exemplary." (Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92).	
	1991 Oakwood Instruction Manual	"coating … with a layer of ink"– "Combine some of these components with customized printed core and overlay materials …." (Sharinn Ex. 12, OIM at 1 ¶ 1)	OIM expressly teaches printing on a core. A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and OIM because OIM is the instruction manual associated with the Series 6 laminator described and illustrated in the Oakwood Reference.
	Cumulative '533 patent	Cumulative "The backside of the substrate … also has printed information thereon formed by a conventional offset lithography process, for example." (Sharinn Ex. 15, '533 patent, col. 3, lines 60-63).	
(e) applying a layer of over laminate film to at least one of said outer surfaces of said core.	'024 patent	"overlaminate film" – "The compound films used in this example as cover layers are polyester films (PETP) 32 and 40 …." (Sharinn Ex. 14, '024 patent, col. 5, lines 51-54; Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92).	
	1987 Oakwood	"overlaminate film" – bottom plastic	

	Series 6 Brochure Cumulative 1991 Oakwood Instruction Manual Cumulative JP '214	opaque layer (Sharinn Ex. 10, OS6B at 4, see illustration). Cumulative Sharinn Ex. 12, OIM at 1 ¶ 1 ("Combine some of these components with customized printed core and overlay materials…"). Cumulative "[T]he references as set forth above suggested the use of multiple films over the chip, for example Japanese Patent '214 suggested the use of multiple films 14 and 15 over the assembly." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
2. The process incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, where in said laminator apparatus has first and second laminating plates, at least one of said first and second laminating plates having a matte finish for creating a textured surface on at	1987 Oakwood Series 6 Brochure	Examiner indicated "As to the dependent claims regarding the various sequential pressures and other process parameters, these are considered within the purview of one of ordinary skill in the art and would depend upon the type of material being laminated." (Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "first and second laminating plates" – "The card sets to be laminated are inserted between stainless steel	

least one of said outer surfaces of said core.		laminating plates and inserted into the machine on the laminating tray."(Sharinn Ex. 10, OS6B at 3). ***This reference does not disclose the finish of laminating plates nor does it disclose the texture of the surface of resulting laminated core.***	Oberthur is not relying on the Oakwood Reference for "the finish of laminating plates" or "texture of the surface of resulting laminated core". The '134 patent teaches those limitations. Since both the Oakwood Reference and the '134 patent relate to the manufacture of plastic laminated cards, a person having ordinary skill would be motivated to combine the lamination process of the Oakwood Reference with those teachings of the '134 patent in order that the resulting laminated plastic card would include the same features as the '134 patent teaches.
	'134 patent	"at least one of said first and second laminating plates having a matte finish" – "[S]tainless steel plates 63a subjected to matte working by a sand matte were superposed thereon to carry out hot pressing …. As a result, a sheet for reinforcement 51 applied with matte working on both surfaces of the substrate 61 … was obtained. Matte working can be applied on any desired surface by replacing the above stainless steel plates	

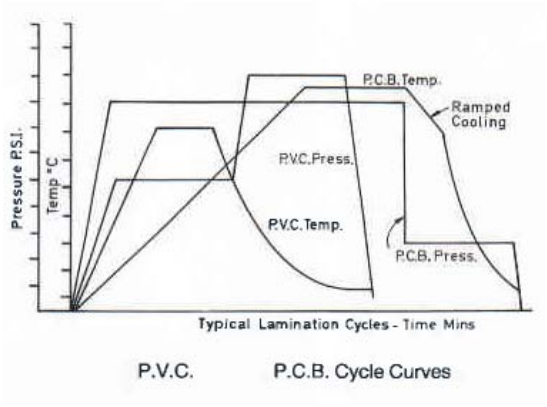
		63a with the desired plate." (Sharinn Ex. 16, '134 patent, col. 12, lines 19-27).	
3. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 2, wherein each of said first and second laminating plates has a matte finish for creating said textured surface on both of said outer surfaces of said core.	'134 patent	Examiner indicated "As to the dependent claims regarding the various sequential pressures and other process parameters, these are considered within the purview of one of ordinary skill in the art and would depend upon the type of material being laminated." (Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "each of said first and second laminating plates has a matte finish" – "[S]tainless steel plates 63a subjected to matte working by a sand matte were superposed thereon to carry out hot pressing …. As a result, a sheet for reinforcement 51 applied with matte working on both surfaces of the substrate 61 … was obtained. Matte working can be applied on any desired surface by replacing the above stainless steel plates 63a with the desired plate." (Sharinn Ex. 16, '134 patent, col. 12, lines 19-27).	The '134 patent teaches laminating plates having a matte finish. Since both the Oakwood Reference and the '134 patent relate to the manufacture of plastic laminated cards, a person having ordinary skill would be motivated to combine the lamination process of the Oakwood Reference with those teachings of the '134 patent in order that the resulting laminated plastic card would include the same features as the '134 patent teaches.
4. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, where in said first and		Examiner indicated "As to the recitations in the dependent claims regarding various types of materials, these are considered within the purview of one of ordinary skill in the art." (Sharinn Ex. 23, Office Action mailed 9/8/97, see	

second plastic core sheets are made from a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene-styrene, each of said sheets having a thickness in the range of 0.007 to 0.024 inch.	1987 Oakwood Series 6 Brochure	OCS_C_045587-92). "polyvinyl chloride" – second opaque plastic layer and substrate beneath inductive codings are made of plastic (P.V.C.) (Sharinn Ex. 10, OS6B at 3, 4, see illustration). ***This reference fails to teach a process where the plastic core sheets are made of a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene.*** ***This reference fails to disclose a thickness range of plastic sheets to be used***	Oberthur is not relying on OS6B for teaching this limitation. Oberthur, however, is relying on the teachings of the '533 patent. A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and the materials taught in the '533 patent because the subject matter relied on in the '533 patent relates to manufacturing a plastic card as does the Oakwood Reference. Further, the thickness recited in this claim is an unpatentable modification of the dimensions taught in the '533 patent. *See In re Aller*, 220 F.2d 454, 456, 459 (CCPA 1955) (stating that "[n]ormally, it is to be expected that a change in temperature, or in concentration, or in both, would be an unpatentable modification" and finding that "the claimed process is merely different in degree and not kind from the reference process, and that the criticality of the

			claimed ranges has not been shown"); *see also In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003) (stating that "[w]e have also held that a prima facie case of obviousness exists when the claimed range and the prior art range do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties"); *In re Huang*, 100 F.3d 135, 139 (Fed. Cir. 1996) (stating that a claimed invention that differed from the prior art only in specifying thickness ratios was prima facie obvious).
	'533 patent	"thickness in the range of 0.007 to 0.024 inch" – unpatentable modification of prior art dimensions ("The plastic substrate 2 of the card is … preferably PVC, with a thickness of 0.0265 inch." (Sharinn Ex. 15, '533 patent, col.4, lines 12-21)).	
5. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 4, wherein said first and second plastic core sheets have a thickness of approximately 0.0125		Examiner indicated "As to the dependent claims regarding the various sequential pressures and other process parameters, these are considered within the purview of one of ordinary skill in the art and would depend upon the type of material being laminated." (Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92).	

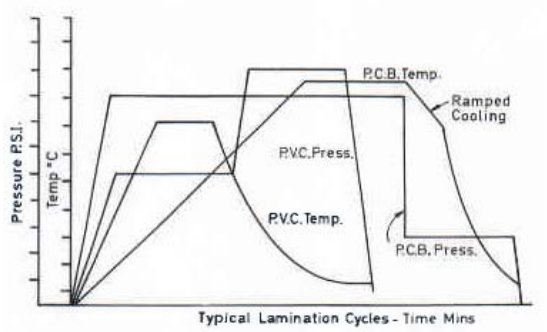
inch.	'533 patent	"a thickness of approximately 0.0125 inch" – unpatentable modification of prior art dimensions ("The plastic substrate 2 of the card is … preferably PVC, with a thickness of 0.0265 inch." (Sharinn Ex. 15, '533 patent, col.4, lines 12-21)).	A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and the '533 patent because the subject matter relied on in the '533 patent relates to manufacturing a plastic card as does the Oakwood Reference. Further, the thickness recited in this claim is an unpatentable modification of the dimensions taught in the '533 patent. *See In re Aller*, 220 F.2d 454, 456, 459 (CCPA 1955) (stating that "[n]ormally, it is to be expected that a change in temperature, or in concentration, or in both, would be an unpatentable modification" and finding that "the claimed process is merely different in degree and not kind from the reference process, and that the criticality of the claimed ranges has not been shown"); *see also In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003) (stating that "[w]e have also held that a prima facie case of obviousness exists when the claimed range and the prior art range do not overlap but are close enough such that one skilled in the art would have expected them to have the same properties"); *In re Huang*, 100 F.3d 135, 139 (Fed. Cir. 1996) (stating that a

			claimed invention that differed from the prior art only in specifying thickness ratios was prima facie obvious).
6. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said second pressure is greater than said first pressure.	1987 Oakwood Sales Brochure	Examiner indicated "As to the dependent claims regarding the various sequential pressures and other process parameters, these are considered within the purview of one of ordinary skill in the art and would depend upon the type of material being laminated." (Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "said second pressure is greater than said first pressure" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
7. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 6, wherein said second pressure is at least approximately 25% greater than said first pressure.	1987 Oakwood Sales Brochure	Examiner indicated "As to the dependent claims regarding the various sequential pressures and other process parameters, these are considered within the purview of one of ordinary skill in the art and would depend upon the type of material being laminated." (Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "said second pressure is at least approximately 25% greater than said first pressure" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram	

		(Sharinn Ex. 11, OSB at 6, see diagram). ***This reference fails to indicate whether the second pressure is at least 25% greater than said first pressure***  P.V.C. P.C.B. Cycle Curves **Q.** Was this chart intended to have any particular units associated with the pressure? If you can see there are tick marks that go up the left-hand vertical line there. **A.** No. This is just an indicative sales brochure. It has no relevance in terms of pressure or temperature. Smith Depo., 79:12-18.	The lamination cycle diagram "speaks for itself" and plainly illustrates a cooling pressure that is well beyond 25% greater than the heating pressure. Indeed, the cooling pressure is illustrated as being approximately twice as great as the heating pressure. Moreover, Leighton's reliance on Mr. Smith's deposition testimony is misplaced. Mr. Smith testified that the tick marks in the diagram do not represent "particular" numerical values for temperature and pressure; however, he did not negate that each tick mark represented a "unit" of temperature and pressure. Thus, two tick marks represent twice the pressure (or temperature) of one tick mark.
8. The process for incorporating at least one		Examiner indicated "As to the dependent claims regarding the various sequential	

electronic element in the manufacture of a plastic card as recited in claim 1, wherein said core is heated in step (c)(i) to a temperature in the range of 275° F. to 400° F. and said first period of time is at least five (5) minutes.		pressures and other process parameters, these are considered within the purview of one of ordinary skill in the art and would depend upon the type of material being laminated." (Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92).	
	1987 Oakwood Series 6 Brochure	"temperature in the range of 275° F. to 400° F." – laminating temperature for the Series 6 laminator is 392 degree F. which is within the recited temperature range of "275° F. to 400° F." (Sharinn Ex. 10, OS6B at 3).	
	Cumulative 1991 Oakwood Instruction Manual	Cumulative "temperature in the range of 275° degree F. to 400° degree F." – unpatentable modification of prior art temperatures ("LAMINATING TEMPERATURE 90 – 200 DEGREES C" (Sharinn Ex. 12, OIM at 6, 3.3B)).	The temperature range recited in this claim is an unpatentable modification of the temperatures range taught in OIM. *See In re Aller*, 220 F.2d 454, 456, 459 (CCPA 1955) (stating that "[n]ormally, it is to be expected that a change in temperature, or in concentration, or in both, would be an unpatentable modification" and finding that "the claimed process is merely different in degree and not kind from the reference process, and that the criticality of the claimed ranges has not been shown"); *see also In re Peterson*, 315 F.3d 1325, 1329 (Fed. Cir. 2003) (stating that "[a] prima case of obviousness typically

			exists when the ranges of a claimed composition overlap the ranges disclosed in the prior art"); *In re Huang*, 100 F.3d 135, 139 (Fed. Cir. 1996) (stating that a claimed invention that differed from the prior art only in specifying thickness ratios was prima facie obvious).
	Cumulative '533 patent	Cumulative "the application of heat … at 265° platen temperature" (Sharinn Ex. 15, '533 patent, col. 4, line 33).	
	1987 Oakwood Sales Brochure	"said first period of time is at least five (5) minutes" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram and horizontal axis of diagram indicating time in minutes ("Mins") (Sharinn Ex. 11, OSB at 6, see diagram).	
		This reference fails to identify the length of time at which the temperature is held	OSB expressly teaches heating the core for "at least five (5) minutes". On p. 8 in OSB, a chart is provided with the lamination cycle time in minutes for various Series 6 laminator models. For instance, the cycle time for model 6D illustrated on the same page is 10-12 minutes. Applying the 10-12 minute cycle time to the lamination cycle diagram on p. 6 in OSB, the core is heated for at least five minutes since

		 P.V.C. P.C.B. Cycle Curves **Q.** Thank you. The same thing with regard to temperature, it is just meant to designate that the temperature is increasing, but there is no designator that we could associate with any of these tick marks here, right? **A.** That's correct. Smith Depo., 79:19-24.	heating occurs for approximately half the cycle. Oberthur did not rely on the Oakwood lamination cycle diagram for teaching this limitation. Rather, Oberthur relied in its claim chart on the teachings of OIM. Leighton does not rebut those teachings in its Opposition. A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and OIM because OIM is the instruction manual associated with the Series 6 laminator described and illustrated in the Oakwood Reference.
11. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (d) is		Examiner indicated "As to the dependent claims regarding the various sequential pressures and other process parameters, these are considered within the purview of one of ordinary skill in the art and would depend upon the type of material	

carried out utilizing a coating technique selected form the group consisting of silk screen printing, offset printing, letterpress printing, screen printing, roller coating, spray printing, and litho-printing.	1991 Oakwood Instruction Manual	being laminated." (Sharinn Ex. 23, Office Action mailed 9/8/97, see OCS_C_045587-92). "coating technique selected from the group consisting of …" – "Combine some of these components with customized printed core and overlay materials …." (Sharinn Ex. 12, OIM at 1, ¶ 1). ***This reference fails to disclose a process where the core is coated using a coating technique selected from the group consisting of silk screen printing, offset printing, letterpress printing, screen printing, roller coating, spray printing, and litho-printing.***	OIM expressly teaches printing on a core and implicitly teaches at least one of the printing techniques enumerated in this claim. A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and OIM because OIM is the instruction manual associated with the Series 6 laminator described and illustrated in the Oakwood Reference. Further, the '533 patent teaches printing on a core surface using "a conventional offset lithography process, for example". A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and the '533 patent because the subject matter relied on in the '533 patent relates to manufacturing a laminated plastic card as does the Oakwood Reference.

	Cumulative '533 patent	Cumulative "The backside of the substrate … also has printed information thereon formed by a conventional offset lithography process, for example." (Sharinn Ex. 15, '533 patent, col. 3, lines 60-63).	
13. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated wire antenna.	1987 Oakwood Series 6 Brochure	"micro-chip and an associated wire antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a micro-chip and an associated wire antenna."***	OS6B expressly teaches that microchips can be laminated into the core: "Oakwood technicians … have packaged the most sophisticated micro chips within the core structure of a card." Sharinn Ex. 10, OS6B at 4. Also, since OS6B describes machine reading applications for contactless card sets, for instance, security access control, OS6B implicitly teaches that an associated wire antenna is laminated with the microchip in the core. Further, the JP '214 and '201 patents were of record in the Leighton patents. A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and either JP '214 or the '201 patent because the

	Cumulative JP '214 Cumulative '201 patent	Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3. Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F.	subject matter relied on in JP '214 and the '201 patent relates to contactless cards as does the Oakwood Reference.
14. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated circuit board antenna.	1987 Oakwood Series 6 Brochure	"micro-chip and an associated circuit board antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a micro-chip and an associated circuit board antenna."***	OS6B expressly teaches that microchips can be laminated into the core: "Oakwood technicians … have packaged the most sophisticated micro chips within the core structure of a card." Sharinn Ex. 10, OS6B at 4. Also, since OS6B describes machine reading applications for contactless card sets, for instance, security access control, OS6B implicitly teaches that an associated circuit board antenna is laminated with the microchip in the core. Further, the JP '214 and '201 patents were of record in the Leighton patents.

	Cumulative JP '214 Cumulative '201 patent	Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3. Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F.	A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and either JP '214 or the '201 patent because the subject matter relied on in JP '214 and the '201 patent relates to contactless cards as does the Oakwood Reference.
15. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a read/write integrated chip and an associated antenna.	1987 Oakwood Series 6 Brochure	"read/write integrated chip and an associated antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a read/write chip and an associated antenna."***	OS6B expressly teaches that microchips can be laminated into the core: "Oakwood technicians … have packaged the most sophisticated micro chips within the core structure of a card." Sharinn Ex. 10, OS6B at 4. Also, since OS6B describes machine reading applications for contactless card sets, for instance, security access control, OS6B implicitly teaches that an associated antenna is laminated with the microchip

			in the core and that the microchip is a read/write integrated chip. Further, the JP '214 and '201 patents were of record in the Leighton patents. A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and either JP '214 or the '201 patent because the subject matter relied on in JP '214 and the '201 patent relates to contactless cards as does the Oakwood Reference.
	Cumulative JP '214 Cumulative '201 patent	Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3. Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F and col. 1, lines 50-51 ("Smart Cards are used with a reader/writer that includes an interface ('external interface') that is used to transmit information to or from the Smart Card.").	
16. A hot lamination process for the manufacture of plastic cards, said process comprising the steps of:	1987 Oakwood Sales Brochure	"A hot lamination process for the manufacture of plastic cards" – "Oakwood has developed a unique lamination cycle for the highest quality bank and credit card manufacturing producing a well laminated structure ….	

		The temperature of all platens is controlled individually to provide uniform heating throughout the press." (Sharinn Ex. 11, OSB at 6).	
	Cumulative JP '214	Cumulative "Japanese Patent '214 taught a process for forming a smart card which included the steps of laminating with heat and pressure an assembly which included an IC chip 11 and a thin coil 12 (an antenna)." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(a) providing first and second plastic core sheets;	1987 Oakwood Series 6 Brochure	"first and second plastic core sheets" –- second opaque plastic layer and substrate beneath inductive codings (Sharinn Ex. 10, OS6B at 4, see illustration).	
	Cumulative JP '214	Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(b) positioning at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets	1987 Oakwood Series 6 Brochure	"positioning …" – inductive coils are illustrated as being positioned between second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration).	

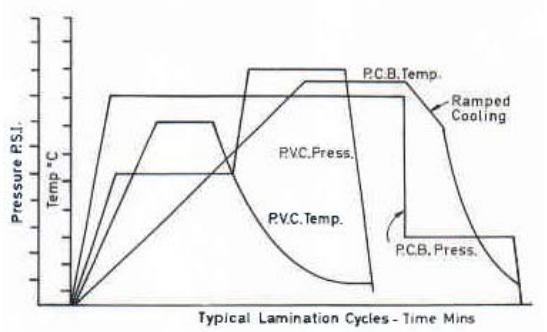
to form a layered core;	1987 Oakwood Series 6 Brochure	"electronic element" – inductive codings or microchip (Sharinn Ex. 10, OS6B at 4, see illustration and text under heading "Machine Reading Applications"). ***This reference does not disclose an electronic element.*** • See the '207 patent, claim 1, preamble for explanation.	See '207 patent, claim 1 for Oberthur's reply.
	1987 Oakwood Series 6 Brochure	"in the absence of a non-electronic carrier" – inductive codings are illustrated with no protection (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference does not teach positioning an electronic element "in the absence of a non-electronic carrier"*** • There is no evidence that the illustration cited in this reference does not include a cavity or protective layer for protecting the inductive codings from heat and pressure during the lamination process. • The conclusory statements provided by Oberthur are not sufficient to show that this	See '207 patent, claim 1 for Oberthur's reply.

	1987 Oakwood Series 6 Brochure	illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way. "directly" – inductive coils are in immediate physical contact with second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference also does not teach positioning an electronic element "directly between said first and second plastic core sheets"*** • Again, there is no evidence to show that the illustration cited in this reference positions the inductive codings directly between plastic core sheets. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element.	See '207 patent, claim 1 for Oberthur's reply.

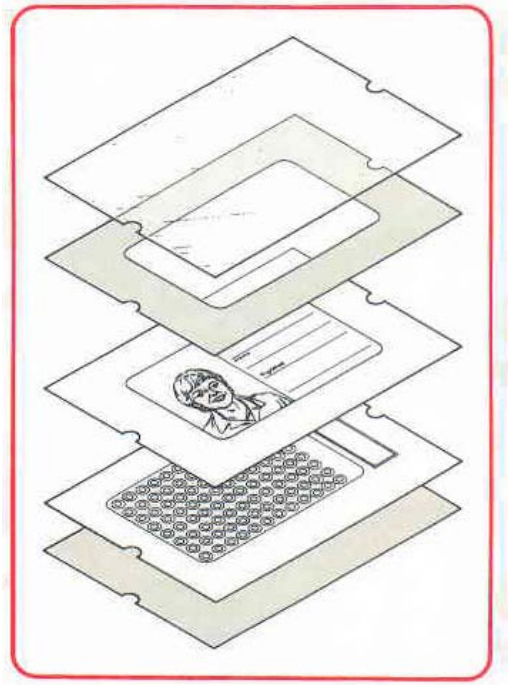
		• The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way.	
	1987 Oakwood Series 6 Brochure	"layered core" – second opaque plastic layer, inductive codings and substrate form the "core" (Sharinn Ex. 10, OS6B at 4, see illustration).	
	Cumulative JP '214	Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:	1987 Oakwood Series 6 Brochure	"positioning said core in a laminator apparatus" – second opaque plastic layer, inductive codings and substrate can be positioned in the Series 6 laminator: "Many of the more sophisticated cards are made possible due only to the flexibility of the heat and pressure system which is a major feature of the Series 6 Laminators." (Sharinn Ex. 10, OS6B at 3, 4 see illustration).	
	1987 Oakwood Series 6 Brochure	"heat and pressure cycle" – "heat and pressure are applied" to second opaque plastic layer, inductive codings and substrate (Sharinn Ex. 10, OS6B at 3).	

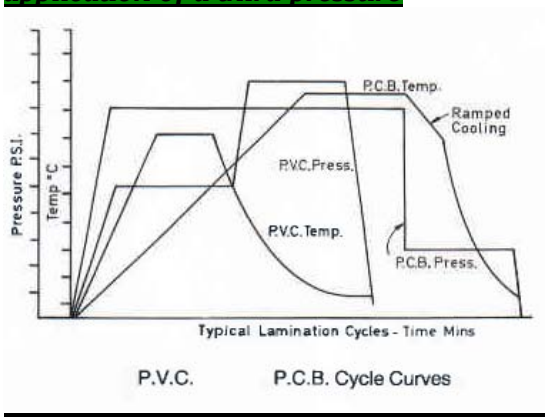
	Cumulative JP '214	Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(i) heating said core in said laminator, in the presence of a minimal first ram pressure, to a temperature which causes controlled flow of said plastic which makes up said first and second plastic core sheets;	1987 Oakwood Sales Brochure 1987 Oakwood Sales Brochure Cumulative 1991 Oakwood Instruction Manual 1987 Oakwood Sales Brochure Cumulative 1991 Oakwood	"heating said core" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). "minimal first ram pressure" – Sharinn Ex. 11, OSB at 6, see initial "P.V.C. Press." ramp up in illustration. Cumulative Sharinn Ex. 12, OIM at 6 ("Low pressure is applied to the material during the heating stage to achieve lamination."). "controlled flow of said plastic" – inherent teaching that during the ramp up of temperature the plastic will "flow" (Sharinn Ex. 11, OSB at 6, see initial "P.V.C. Press." ramp up in illustration). Cumulative "controlled flow of said plastic" –	A person having ordinary skill would be motivated to combine the teachings of

	Instruction Manual Cumulative JP '214	"Actual lamination will take place when the material has reached a molten stage at very low pressures." (Sharinn Ex. 12, OIM at 6). Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	the Oakwood Reference and OIM because OIM is the instruction manual associated with the Series 6 laminator described and illustrated in the Oakwood Reference.
(ii) applying a second pressure uniformly across said core for encapsulating said at least one electronic element within said controlled flow plastic;	1987 Oakwood Sales Brochure	"applying a second pressure" – "P.V.C. Press." Curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). ***This reference does not teach applying a second pressure at the lamination temperature for encapsulating the electronic element***	The "second pressure" recited in this claim corresponds to the "first pressure" recited in Claim 1, *i.e.*, the pressure used to encapsulate the "electronic element". Leighton merely refers to the Oakwood lamination cycle diagram for support and provides a conclusory statement that that diagram fails to teach a "second pressure". The diagram teaches applying a "second pressure", an encapsulation pressure, identified by a green line in Oberthur's moving

		 P.V.C. P.C.B. Cycle Curves ***The second pressure tought by this reference is applied after encapsulation of the electronic element*** **Q.** For the record, what is the purpose of the high pressure that begins at the Vicat point? **A.** As we had mentioned earlier, when the materials are held at the low pressure, if it was continued through at the low pressure to the end of the machine cycle, the result would be a poor surface finish and we used the term, "Puddling", before. Increasing to the high pressure, we create the surface finish that we see on plastic cards today in your pocket.	memorandum. *See* Oberthur's Memorandum, p.21 (green line). Leighton, does not refute why that is not the "second pressure". Leighton appears to be referring to the "second pressure" as the top plateau (high pressure) in the Oakwood lamination cycle. However, this is not Oberthur's position; Oberthur's "second pressure" is the encapsulation pressure. Leighton once again misreads Mr. Smith's deposition testimony. Mr. Smith was testifying that a high pressure is applied for the purpose of creating a smooth surface finish. This high pressure is applied during the cooling cycle. This corresponds to the "third pressure" in this claim. Mr. Smith was not referring to the pressure applied for encapsulating the "electronic element".

		Smith Depo., 67:6-15.	
	1987 Oakwood Sales Brochure	"uniformly across said core" – "Precise, uniform pressure distribution over the whole platan eliminating pressure losses at the edges and corners." (Sharinn Ex. 11, OSB at 1).	
	1987 Oakwood Series 6 Brochure	"encapsulating said at least one electronic element" – during lamination inductive codings are enclosed by second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration).	
		The illustration cited in this reference does not teach the process of encapsulating the electronic element	Encapsulation of the inductive codings is expressly, or at least implicitly, taught by the card set illustration and the lamination cycle diagram. The Court defined "encapsulated by" and "encapsulating" to mean "enclosed by" and "enclosing", respectively. OS6B and OSB teach laminating the card set having the inductive codings with the lamination cycle shown in OSB. When the plastic layers illustrated in the card set come together and heat and pressure are applied (as taught by the lamination cycle), the inductive codings will be "enclosed by" the inductive second opaque plastic layer and the plastic substrate. At a point during the

	Cumulative JP '214	 Card set for machine reading application. Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7,Office Action mailed 12/6/00, see OCS_C_045446-58).	lamination cycle, the plastic will soften and by exerting pressure the inductive codings will be enclosed by that plastic.
(iii) subsequently cooling said core in conjunction	1987 Oakwood Sales Brochure	"cooling . . . in conjunction with the concurrent application of a third	

with the concurrent application of a third pressure uniformly across said core, said core including and upper and lower surfaces;	1987 Oakwood Sales Brochure	pressure" – "P.V.C. Temp." and "P.V.C. Press." curves of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). ***This reference does not disclose the application of a third pressure***  P.V.C. P.C.B. Cycle Curves "uniformly across said core" – "Precise, uniform pressure distribution over the whole platen eliminating pressure losses at the edges and corners." (Sharinn Ex. 11, OSB at 1).	The "third pressure" recited in this claim corresponds to the "second pressure" recited in Claim 1, *i.e.*, the higher pressure applied during cooling. Leighton merely refers to the Oakwood lamination cycle diagram for support and provides a conclusory statement that that diagram fails to teach a "third pressure". The Oakwood diagram teaches applying a "third pressure", *i.e.*, a high pressure during cooling, identified by a yellow line in Oberthur's moving memorandum. *See* Oberthur's Memorandum, p.21.
(d) printing on at least one of said upper and lower surfaces of said core such that a layer of	1991 Oakwood Instruction Manual	"printing on at least one of said upper and lower surfaces of said core" – "Combine some of these components with customized printed core and overlay	OIM expressly teaches printing on a core. A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and

ink is applied to at least a portion of said at least one upper and lower surface of said core.	Cumulative '533 patent	materials …" (Sharinn Ex. 12, OIM at 1 ¶ 1). Cumulative "The backside of the substrate … also has printed information thereon formed by a conventional offset lithography process, for example." (Sharinn Ex. 15, '533 patent, col. 3, lines 60-63).	OIM because OIM is the instruction manual associated with the Series 6 laminator described and illustrated in the Oakwood Reference.
17. The method as recited in claim 16 wherein said first and second core layers are devoid of any appreciable cutouts.	1987 Oakwood Series 6 Brochure	"first and second core layers are devoid of any appreciable cutouts" – second opaque plastic layer and substrate beneath the inductive codings (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference does not teach a configuration where core layers are devoid of cutouts*** **A.** In the top part of the drawing, there's a photograph that is shown on the second opaque plastic layer. The first opaque plastic layer has a cutout picture frame around it that would fit over that picture so that it would present an even and flat surface or lamination. That box that's around where the coils are is not there as an aesthetic. It's drawn for	Leighton is wrong that the "core layers" in the Oakwood Reference have cutouts. As indicated in Oberthur's moving memorandum at p. 19, the first core layer is the second opaque plastic layer and the second core layer is the plastic substrate. Neither has a cutout. The testimony of Mr. Mosteller that Leighton quotes does not address which elements of the Oakwood card correspond to the core layers recited in the Leighton claims; he was merely describing the overall construction of the card, some layers of which have cutouts. Neither of

		a reason. The reason I feel it's not there for aesthetics is because it's sandwiched between opaque layers, and putting aesthetics on what layer would be fruitile (sic). So my opinion is that it designates a cutout, just like it does in the first opaque layer, and that in that cutout is the substrate with the coils. November 22, 2005 Deposition of Barry Mosteller ("Mosteller Depo."), 59:22-60:12.	the layers he identifies as having cutouts are "core layers" as Oberthur applies the claim to the Oakwood Reference.
	Cumulative JP '214	Cumulative Plastic films 14 are devoid of any appreciable cutouts. (Sharinn Ex. 6 and Ex. 24, JP '214, Figs. 1-4).	

U.S. Pat. No. 6,036,099

Reference Key:
- 1987 Oakwood Series 6 Brochure ("OS6B")
- 1987 Oakwood Sales Brochure ("OSB")
- OS6B and OSB collectively referred to as the "Oakwood Reference"
- 1991 Oakwood Series 6 Instruction Manual ("OIM")
- Templeton, Jr. et al., U.S. Patent No. 5,519,201 (" '201 patent")
- Lyszczarz, U.S. Patent No. 4,897,533 (" '533 patent")
- Hida et al., U.S. Patent No. 4,841,134 (" '134 patent")
- Japanese Patent Application Publication H6-176214 ("JP '214")
- Haghiri – Tehrani et al., U.S. Patent No. 4,450,024 (" '024 patent")
- Mundigl et al., U.S. Pat. No. 5,809,633 (" '633 patent")

Claims (missing claim elements are highlighted in green or red)	**Prior Art**	**Application of Prior Art** (missing claim elements are highlighted in green or red)	**Oberthur's Reply**
1. A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:	'024 patent 1987 Oakwood Series 6 Brochure	"electronic element" – IC module 5 (Sharinn Ex. 14, '024 patent, col. 3, lines 10-11, Fig. 1; see also col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "electronic element" – inductive codings or microchip (Sharinn Ex. 10, OS6B at 4, see illustration and text under heading "Machine Reading Applications").	

		This reference does not disclose an electronic element. See the '207 patent, claim 1, preamble for explanation. ***This reference does not teach how to incorporate an electronic element in the manufacture of a plastic card*** See '207 patent, claim 1.	See the '207 patent, claim 1 for Oberhtur's reply. See '207 patent, claim 1 for Oberthur's reply.
	JP '214	"Japanese Patent '214 taught a process for forming a smart card which included the steps of laminating with heat and pressure an assembly which included an IC chip 11 and a thin coil 12 (an antenna)." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(a) providing first and second plastic core sheets;	'024 patent	"first and second plastic core sheets" – cover films 12, 13 (Sharinn Ex. 14, '024 patent, col. 3, lines 50-53; see also col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	
	1987 Oakwood Series 6 Brochure	"first and second plastic core sheets" – second opaque plastic layer and substrate beneath inductive codings (Sharinn Ex.10, OS6B at 4, see illustration).	

	Cumulative JP '214	Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;	'024 patent 1987 Oakwood Series 6 Brochure 1987 Oakwood Series 6 Brochure	"positioning …" – IC module 5 (placed in carrier element 6) is illustrated as being positioned between cover films 12, 13 (Sharinn Ex. 14, '024 patent, Fig. 2a; see also col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "positioning …" – inductive codings are illustrated as being positioned between second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). "in the absence of a nonelectronic carrier" – inductive codings are illustrated with no protection (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference does not teach positioning an electronic element "in the absence of a non-electronic carrier"*** • There is no evidence that the	See '207 patent, claim 1 for Oberthur's reply.

		illustration cited in this reference does not include a cavity or protective layer for protecting the inductive codings from heat and pressure during the lamination process. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way.	
	1987 Oakwood Series 6 Brochure	"directly" – inductive codings are in immediate physical contact with second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference also does not teach positioning an electronic element "directly between said first and second plastic core sheets"*** • Again, there is no evidence to show that the illustration cited in	See '207 patent, claim 1 for Oberthur's reply.

		this reference positions the inductive codings directly between plastic core sheets. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill to laminate a card in such a way.	
	'024 patent	"core" – cover films 12, 13 and IC module 5 form the "core" (Sharinn Ex. 14, '024 patent, Fig. 2a; see also col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	
	1987 Oakwood Series 6 Brochure	"core" – second opaque plastic layer, inductive codings and substrate form the "core" (Sharinn Ex. 10, OS6B at 4, see illustration).	
	1987 Oakwood Series 6 Brochure	"a pair of inner and outer surfaces of said core" – outside surface of second opaque plastic layer and outside surface of substrate are illustrated (Sharinn Ex.	

		10,OS6B at 4, see illustration).	
	Cumulative JP '214	Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:	'024 patent	"positioning said core in a laminator apparatus" – "FIGS. 2a and 2b show the first embodiment of the invention before and after the laminating process (Sharinn Ex. 14, '024 patent, col. 3, lines 45-49; see also col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	
	1987 Oakwood Series 6 Brochure	"positioning said core in a laminator apparatus" – second opaque plastic layer, inductive codings and substrate can be positioned in the Series 6 laminator: "Many of the more sophisticated cards are made possible due only to the flexibility of the heat and pressure system which is a major feature of the Series 6 Laminators." (Sharinn Ex. 10, OS6B at 3, 4 see illustration).	
	1987 Oakwood Series 6 Brochure	"heat and pressure cycle" –"[h]eat and pressure are applied" to second opaque plastic layer, inductive codings and	

		substrate (Sharinn Ex. 10, OS6B at 3).	
	Cumulative JP '214	Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(i) heating said core for a first period of time;	'024 patent	"heating said core for a first period of time" – "In the further course of the laminating process the card composite is gradually heated up so that the PVC-layers soften." (Sharinn Ex. 14, '024 patent, col. 3, lines 63-65; see also col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	
	1987 Oakwood Sales Brochure	"heating said core for a first period of time" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). **This reference teaches applying a pressure phase first.** See '207 patent, claim 1, element (c)(i).	See '207 patent, claim 1 for Oberthur's reply.
	Cumulative	Cumulative	

	JP '214	"The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;	'024 patent	"applying a first pressure … for a second period of time" – "The laminating pressure will thus be increased as a function of the temperature …, but on the other hand the carrier element is subjected to the full laminating pressure in the final phase of the laminating process, after the card layers have softened. By use of the method of controlling the laminating pressure as a function of the temperature, integrated circuits can be embedded in identification cards undangerously , without any need of additional measures." (Sharinn Ex. 14, '024 patent, col. 6, lines 37-46; see also col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	
	1987 Oakwood Sales Brochure	"applying a first pressure … for a second period of time" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6 see diagram).	

		This reference teaches applying a pressure phase first, then applying a heating phase • See '207 patent, claim 1, element (c)(ii). ***This reference also teaches encapsulating an electronic element during the heating phase, not during the pressure phase.*** • See '207 patent, claim 1, element (c)(ii). Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7,Office Action mailed 12/6/00, see OCS_C_045446-58).	See '207 patent, claim 1 for Oberthur's reply. See '207 patent, claim 1 for Oberthur's reply.
(iii) cooling said core while applying a second pressure to said core;	'024 patent	"cooling … while applying a second pressure" – "In the cold state the carrier element 27 is hardly affected by the pressure of the laminating plate" (Sharinn Ex. 14, '024 patent, col. 5, lines 33-35); "The laminating pressure will thus be increased as a function of the temperature …, but on the other hand the carrier	

		element is subjected to the full laminating pressure in the final phase of the laminating process, after the card layers have softened. By use of the method of controlling the laminating pressure as a function of the temperature, integrated circuits can be embedded in identification cards undangerously , without any need of additional measures." (Sharinn Ex. 14, '024 patent, col. 6, lines 37-46; see also col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "cooling … while applying a second pressure" – "P.V.C. Temp." and "P.V.C. Press. "curves of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
(d) coating at least one of said outer surfaces of said core with a layer of ink; and	'024 patent 1991 Oakwood Instruction Manual	"coating … with a layer of ink" – (Sharinn Ex. 14, '024 patent, col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "coating … with a layer of ink"– "Combine some of these components with customized printed core and overlay materials …." (Sharinn Ex. 12, OIM at 1 ¶ 1)	OIM expressly teaches printing on a core. A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and OIM because OIM is the instruction manual associated with the Series 6

			laminator described and illustrated in the Oakwood Reference.
	Cumulative '533 patent	Cumulative "The backside of the substrate … also has printed information thereon formed by a conventional offset lithography process, for example." (Sharinn Ex. 15, '533 patent, col. 3, lines 60-63).	
(e) milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said electronic element.	'024 patent	"milling a region of said core to a controlled depth . . . to form a cavity which exposes . . . one contact pad of . . . one electronic device" – (Sharinn Ex. 14, '024 patent, col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	
	'201 patent	"milling a region of said core to a controlled depth … to form a cavity which exposes … one contact pad of said electronic element" – "electrical interconnection has been made by forming holes through the main body of the card, the holes extending between the respective electrical contacts of the devices." (Sharinn Ex. 13, '201 patent, col. 2, lines 27-30); "The contact holes 203b and cavity hole 203a can be formed … by, for instance, … milling." (Sharinn Ex. 13, '201 patent, col. 7, lines 10-16).	A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and the '201 patent because the '201 patent teaches milling a hole into a previously laminated plastic card body and the Oakwood Reference teaches a process for manufacturing such a card body.
2. The process for	'134 patent	"at least one of said first and second	

incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said laminator apparatus has first and second laminating plates, at least one of said first and second laminating plates having a matte finish for creating a textured surface on at least one of said outer surfaces of said core.	'134 patent	laminating plates having a matte finish" – (Sharinn Ex. 16, '134 patent, col. 5, lines 6-13; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "at least one of said first and second laminating plates having a matte finish" – "[S]tainless steel plates 63a subjected to matte working by a sand matte were superposed thereon to carry out hot pressing …. As a result, a sheet for reinforcement 51 applied with matte working on both surfaces of the substrate 61 … was obtained. Matte working can be applied on any desired surface by replacing the above stainless steel plates 63a with the desired plate." (Sharinn Ex. 16, '134 patent, col. 12, lines 19-27).	See '207 patent, claim 2.
3. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 2, wherein each of said first and second laminating plates has a matte finish for creating said textured surface on both of said outer surfaces of said core.	'134 patent '134 patent	"each of said first and second laminating plates has a matte finish" – (Sharinn Ex. 16, '134 patent, col. 5, lines 6-13; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "each of said first and second laminating plates has a matte finish" – "[S]tainless steel plates 63a subjected to matte working by a sand matte were superposed thereon to carry out hot pressing …. As a result, a sheet for reinforcement 51	See '207 patent, claim 3.

		applied with matte working on both surfaces of the substrate 61 … was obtained. Matte working can be applied on any desired surface by replacing the above stainless steel plates 63a with the desired plate." (Sharinn Ex. 16, '134 patent, col. 12, lines 19-27).	
4. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, where in said first and second plastic core sheets are made from a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene-styrene, each of said sheets having a thickness in the range of 0.007 to 0.024 inch.	'024 patent 1987 Oakwood Series 6 Brochure '533 patent	"polyvinyl chloride" – ('024 patent, col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "polyvinyl chloride" – second opaque plastic layer and substrate beneath inductive codings are made of plastic (P.V.C.) (Sharinn Ex. 10, OS6B at 3, 4, see illustration). ***This reference fails to teach a process where the plastic core sheets are made of a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene.*** ***This reference fails to disclose a thickness range of plastic sheets to be used*** • See '207 patent, claim 4. "thickness in the range of 0.007 to 0.024	See '207 patent, claim 4 for Oberthur's reply.

		inch" – unpatentable modification of prior art dimensions ("The plastic substrate 2 of the card is … preferably PVC, with a thickness of 0.0265 inch." (Sharinn Ex. 15, '533 patent, col.4, lines 12-21)).	
5. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 5, wherein said first and second plastic core sheets have a thickness of approximately 0.0125 inch.	'024 patent '533 patent	"a thickness of approximately 0.0125 inch" – (Sharinn Ex. 14, '024 patent, col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "a thickness of approximately 0.0125 inch" – unpatentable modification of prior art dimensions ("The plastic substrate 2 of the card is … preferably PVC, with a thickness of 0.0265 inch." (Sharinn Ex. 15, '533 patent, col.4, lines 12-21)).	See '207 patent, claim 5.
6. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said second pressure is greater than said first pressure.	'024 patent 1987 Oakwood Sales Brochure	"said second pressure is greater than said first pressure" – (Sharinn Ex. 14, '024 patent, col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "said second pressure is greater than said first pressure" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
8. A hot lamination process as recited in	'024 patent	"overlaminate film" – (Sharinn Ex. 14, '024 patent, col. 5, lines 7-47; Sharinn	

claim 1 having a further step following step (d), said step comprising: positioning said core in a laminator apparatus with a layer of overlaminate film on at least one of said upper and lower surfaces of said core and laminating said layer of overlaminate film to said core in said laminator to thereby form a sheet of plastic card stock.	1987 Oakwood Series 6 Brochure Cumulative 1991 Oakwood Instruction Manual Cumulative JP '214	Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "overlaminate film" – second opaque plastic layer, inductive codings, substrate and bottom plastic opaque layer can be positioned in the Series 6 laminator (Sharinn Ex. 10, OS6B at 3, 4, see illustration). Cumulative Sharinn Ex. 12, OIM at 1 ¶ 1 ("Combine some of these components with customized printed core and overlay materials…"). Cumulative "[T]he references as set forth above suggested the use of multiple films over the chip, for example Japanese Patent '214 suggested the use of multiple films 14 and 15 over the assembly." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
9. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said core is	'024 patent	"temperature in the range of 275.degree. F. to 400.degree. F." – (Sharinn Ex. 14, '024 patent, col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	

heated in step (c)(i) to a temperature in the range of 275° F. to 400° F. and said first period of time is at least five (5) minutes.	1987 Series 6 Brochure	"temperature in the range of 275° F. to 400° F." – laminating temperature for the Series 6 laminator is 392 degree F. which is within the recited temperature range of "275° F. to 400° F." (Sharinn Ex. 10, OS6B at 3).	
	Cumulative 1991 Oakwood Instruction Manual	Cumulative "temperature in the range of 275° F. to 400° F." – unpatentable modification of prior art temperatures ("LAMINATING TEMPERATURE 90 – 200 DEGREES C" (Sharinn Ex. 12, OIM at 6, 3.3B)).	See '207 patent, claim 8.
	Cumulative '533 patent	Cumulative "the application of heat … at 265° platen temperature" (Sharinn Ex. 15, '533 patent, col. 4, line 33).	
	1987 Oakwood Sales Brochure	"said first period of time is at least five (5) minutes" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram and horizontal axis of diagram indicating time in minutes ("Mins") (Sharinn Ex. 11, OSB at 6, see diagram). ***This reference fails to identify the length of time at which the temperature is held*** • See '207 patent, claim 8.	See '207 patent, claim 8 for Oberthur's reply.
12. The process for	'024 patent	"coating technique selected from the	

incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (d) is carried out utilizing a coating technique selected form the group consisting of silk screen printing, offset printing, letterpress printing, screen printing, roller coating, spray printing, and litho-printing.	1991 Oakwood Instruction Manual Cumulative '533 patent	group consisting of …" – (Sharinn Ex. 14, '024 patent, col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "coating technique selected from the group consisting of …" – "Combine some of these components with customized printed core and overlay materials …." (Sharinn Ex. 12, OIM at 1, ¶ 1). ***This reference fails to disclose a process where the core is coated using a coating technique selected from the group consisting of silk screen printing, offset printing, letterpress printing, screen printing, roller coating, spray printing, and litho-printing.*** Cumulative "The backside of the substrate … also has printed information thereon formed by a conventional offset lithography process, for example." (Sharinn Ex. 15, '533 patent, col. 3, lines 60-63).	See '207 patent, claim 11 for Oberthur's reply.
14. A hot lamination process is recited in claim 1 comprising the further step of inserting an electronic contact element into said cavity.	'024 patent	"inserting an electronic contact element into said cavity" – (Sharinn Ex. 14, '024 patent, col. 5, lines 7-47; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	

	'201 patent	"inserting an electronic contact element into said cavity" – "electrically conductive plugs 205 inserted into contact holes 203*b* …" (Sharinn Ex. 13, '201 patent, col. 7, lines 45-59, and Figs. 2J, 2K and 2L, items 203*b* and 205).	A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and the '201 patent because the '201 patent teaches milling a hole and inserting an "electronic contact element" (conductive plug) into that hole of a previously laminated plastic card body and the Oakwood Reference teaches a process for manufacturing such a card body.
15. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated circuit board antenna or an associated wire antenna.	'633 patent 1987 Oakwood Series 6 Brochure Cumulative JP '214	"micro-chip and an associated circuit board antenna or an associated wire antenna" – carrier module 1 (Sharinn Ex. 17, '633 patent, col. 2, lines 36-62; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680). "micro-chip and an associated wire antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a micro-chip and an associated circuit board antenna."*** Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3.	See '207 patent, claim 13 and 14 for Oberthur's reply.

	Cumulative '201 patent	Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F.	
16. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a read/write integrated chip and an associated antenna.	'633 patent	"read/write integrated chip and an associated antenna" – carrier module 1 (Sharinn Ex. 17, '633 patent, col. 2, lines 36-62; Sharinn Ex. 22, Office Action mailed 11/18/98, see OCS_C_045670-45680).	
	1987 Oakwood Series 6 Brochure	"read/write integrated chip and an associated antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a read/write chip and an associated antenna."***	See '207 patent, claim 15 for Oberthur's reply.
	Cumulative JP '214	Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3.	
	Cumulative '201 patent	Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F and col. 1, lines 50-51 ("Smart Cards are used with a reader/writer that includes an interface ('external interface') that is used to transmit information to or from the Smart Card.").	

U.S. Pat. No. 6,214,155

Reference Key:
- 1987 Oakwood Series 6 Brochure ("OS6B")
- 1987 Oakwood Sales Brochure ("OSB")
- OS6B and OSB collectively referred to as the "Oakwood Reference"
- 1991 Oakwood Series 6 Instruction Manual ("OIM")
- Lyszczarz, U.S. Patent No. 4,897,533 (" '533 patent")
- Hida et al., U.S. Patent No. 4,841,134 (" '134 patent")
- Japanese Patent Application Publication H6-176214 ("JP '214")
- Templeton, Jr. et al., U.S. Patent No. 5,519,201 (" '201 patent")

Claims (missing claim elements are highlighted in green or red)	**Prior Art**	**Application of Prior Art** (missing claim elements are highlighted in green or red)	**Oberthur's Reply**
1. A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:	1987 Oakwood Series 6 Brochure	"electronic element" – inductive codings or microchip (Sharinn Ex. 10, OS6B at 4, see illustration and text under heading "Machine Reading Applications"). ***This reference does not disclose an electronic element.*** See the '207 patent, claim 1, preamble for explanation. ***This reference does not teach how to incorporate an electronic element in the***	See the '207 patent, claim 1 for Oberhtur's reply. See '207 patent, claim 1 for Oberthur's reply.

		manufacture of a plastic card • See '207 patent, claim 1. Cumulative JP '214	Cumulative "Japanese Patent '214 taught a process for forming a smart card which included the steps of laminating with heat and pressure an assembly which included an IC chip 11 and a thin coil 12 (an antenna)." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(a) providing first and second plastic core sheets;	1987 Oakwood Series 6 Brochure Cumulative JP '214	"first and second plastic core sheets" – second opaque plastic layer and substrate beneath inductive codings (Sharinn Ex.10, OS6B at 4, see illustration). Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said	1987 Oakwood Series 6 Brochure 1987 Oakwood	"positioning …" – inductive codings are illustrated as being positioned between second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). "in the absence of a nonelectronic carrier"	

plastic core sheets defining a pair of inner and outer surfaces of said core;	Series 6 Brochure	– inductive codings are illustrated with no protection (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference does not teach positioning an electronic element "in the absence of a non-electronic carrier"*** • There is no evidence that the illustration cited in this reference does not include a cavity or protective layer for protecting the inductive codings from heat and pressure during the lamination process. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way.	See '207 patent, claim 1 for Oberthur's reply.
	1987 Oakwood Series 6 Brochure	"directly" – inductive codings are in immediate physical contact with second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see	

		illustration). ***This reference also does not teach positioning an electronic element "directly between said first and second plastic core sheets"*** • Again, there is no evidence to show that the illustration cited in this reference positions the inductive codings directly between plastic core sheets. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill to laminate a card in such a way.	See '207 patent, claim 1 for Oberthur's reply.
	1987 Oakwood Series 6 Brochure	"core" – second opaque plastic layer, inductive codings and substrate form the "core" (Sharinn Ex. 10, OS6B at 4, see illustration).	
	1987 Oakwood Series 6 Brochure	"a pair of inner and outer surfaces of said core" – outside surface of second opaque	

		plastic layer and outside surface of substrate are illustrated (Sharinn Ex. 10,OS6B at 4, see illustration).	
	Cumulative JP '214	Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:	1987 Oakwood Series 6 Brochure	"positioning said core in a laminator apparatus" – second opaque plastic layer, inductive codings and substrate can be positioned in the Series 6 laminator: "Many of the more sophisticated cards are made possible due only to the flexibility of the heat and pressure system which is a major feature of the Series 6 Laminators." (Sharinn Ex. 10, OS6B at 3, 4 see illustration).	
	1987 Oakwood Series 6 Brochure	"heat and pressure cycle" –"[h]eat and pressure are applied" to second opaque plastic layer, inductive codings and substrate (Sharinn Ex. 10, OS6B at 3).	
	Cumulative JP '214	Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and	

		Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(i) heating said core for a first period of time;	1987 Oakwood Sales Brochure Cumulative JP '214	"heating said core for a first period of time" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). **This reference teaches applying a pressure phase first.** • See '207 patent, claim 1, element (c)(i). Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	See '207 patent, claim 1 for Oberthur's reply.
(ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;	1987 Oakwood Sales Brochure	"applying a first pressure … for a second period of time" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6 see diagram). ***This reference teaches applying a pressure phase first, then applying a heating phase***	See '207 patent, claim 1 for Oberthur's reply.

		• See '207 patent, claim 1, element (c)(ii). ***This reference also teaches encapsulating an electronic element during the heating phase, not during the pressure phase.*** • See '207 patent, claim 1, element (c)(ii).	See '207 patent, claim 1 for Oberthur's reply.
	1987 Oakwood Series 6 Brochure	"electronic element is encapsulated by said core" – during lamination inductive codings are enclosed by second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***The illustration cited in this reference fails to disclose anything about encapsulation of the electronic element*** • See '207 patent, claim 1, element (c)(ii).	See '207 patent, claim 1 for Oberthur's reply.
	Cumulative JP '214	Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7,Office Action mailed 12/6/00, see	

		OCS_C_045446-58).	
(iii) cooling said core while applying a second pressure to said core;	1987 Oakwood Sales Brochure	"cooling … while applying a second pressure" – "P.V.C. Temp." and "P.V.C. Press. "curves of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
(d) applying a layer of over laminate film to at least one of said outer surfaces of said core.	1987 Oakwood Series 6 Brochure Cumulative 1991 Oakwood Instruction Manual Cumulative JP '214	"overlaminate film" – bottom plastic opaque layer (Sharinn Ex. 10, OS6B at 4, see illustration). Cumulative Sharinn Ex. 12, OIM at 1 ¶ 1 ("Combine some of these components with customized printed core and overlay materials…"). Cumulative "[T]he references as set forth above suggested the use of multiple films over the chip, for example Japanese Patent '214 suggested the use of multiple films 14 and 15 over the assembly." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
2. The process incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, where in said laminator	1987 Oakwood Series 6 Brochure	"first and second laminating plates" – "The card sets to be laminated are inserted between stainless steel laminating plates and inserted into the machine on the laminating tray."(Sharinn Ex. 10, OS6B at 3).	

apparatus has first and second laminating plates, at least one of said first and second laminating plates having a matte finish for creating a textured surface on at least one of said outer surfaces of said core.	'134 patent	***This reference does not disclose the finish of laminating plates nor does it disclose the texture of the surface of resulting laminated core.*** • See '207 patent, claim 2. "at least one of said first and second laminating plates having a matte finish" – "[S]tainless steel plates 63a subjected to matte working by a sand matte were superposed thereon to carry out hot pressing …. As a result, a sheet for reinforcement 51 applied with matte working on both surfaces of the substrate 61 … was obtained. Matte working can be applied on any desired surface by replacing the above stainless steel plates 63a with the desired plate." (Sharinn Ex. 16, '134 patent, col. 12, lines 19-27).	See '207 patent, claim 2 for Oberthur's reply.
3. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 2, wherein each of said first and second laminating plates has a matte finish for creating said textured surface on both of said	'134 patent	"each of said first and second laminating plates has a matte finish" – "[S]tainless steel plates 63a subjected to matte working by a sand matte were superposed thereon to carry out hot pressing …. As a result, a sheet for reinforcement 51 applied with matte working on both surfaces of the substrate 61 … was obtained. Matte working can be applied on any desired surface by replacing the	See '207 patent, claim 3.

outer surfaces of said core.		above stainless steel plates 63a with the desired plate." (Sharinn Ex. 16, '134 patent, col. 12, lines 19-27).	
4. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, where in said first and second plastic core sheets are made from a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene-styrene, each of said sheets having a thickness in the range of 0.007 to 0.024 inch.	1987 Oakwood Series 6 Brochure '533 patent	"polyvinyl chloride" – second opaque plastic layer and substrate beneath inductive codings are made of plastic (P.V.C.) (Sharinn Ex. 10, OS6B at 3, 4, see illustration). ***This reference fails to teach a process where the plastic core sheets are made of a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene.*** ***This reference fails to disclose a thickness range of plastic sheets to be used*** • See '207 patent, claim 4. "thickness in the range of 0.007 to 0.024 inch" – unpatentable modification of prior art dimensions ("The plastic substrate 2 of the card is … preferably PVC, with a thickness of 0.0265 inch." (Sharinn Ex. 15, '533 patent, col. 4, lines 12-21)).	See '207 patent, claim 4 for Oberthur's reply.
5. The process for incorporating at least one electronic element in the	'533 patent	"a thickness of approximately 0.0125 inch" – unpatentable modification of prior art dimensions ("The plastic	See '207 patent, claim 5.

manufacture of a plastic card as recited in claim 4, wherein said first and second plastic core sheets have a thickness of approximately 0.0125 inch.		substrate 2 of the card is … preferably PVC, with a thickness of 0.0265 inch." (Sharinn Ex. 15, '533 patent, col. 4, lines 12-21)).	
6. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said second pressure is greater than said first pressure.	1987 Oakwood Sales Brochure	"said second pressure is greater than said first pressure" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
7. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 6, wherein said second pressure is at least approximately 25% greater than said first pressure.	1987 Oakwood Sales Brochure	"said second pressure is at least approximately 25% greater than said first pressure" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). ***This reference fails to indicate whether the second pressure is at least 25% greater than said first pressure*** • See '207 patent, claim 7.	See '207 patent, claim 7 for Oberthur's reply.
8. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1,	1987 Oakwood Series 6 Brochure	"temperature in the range of 275° F. to 400° F." – laminating temperature for the Series 6 laminator is 392 degree F. which is within the recited temperature range of "275° F. to 400 ° F." (Sharinn Ex. 10,	

wherein said core is heated in step (c)(i) to a temperature in the range of 275° F. to 400° F. and said first period of time is at least five (5) minutes.	Cumulative 1991 Oakwood Instruction Manual Cumulative '533 patent 1987 Oakwood Sales Brochure ***This reference fails to identify the length of time at which the temperature is held***	OS6B at 3). Cumulative "temperature in the range of 275° F. to 400° F." – unpatentable modification of prior art temperatures ("LAMINATING TEMPERATURE 90 – 200 DEGREES C" (Sharinn Ex. 12, OIM at 6, 3.3B)). Cumulative "the application of heat … at 265° platen temperature" (Sharinn Ex. 15, '533 patent, col. 4, line 33). "said first period of time is at least five (5) minutes" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram and horizontal axis of diagram indicating time in minutes ("Mins") (Sharinn Ex. 11, OSB at 6, see diagram). • See '207 patent, claim 8.	See '207 patent, claim 8. See '207 patent, claim 8 for Oberthur's reply.
11. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one	1987 Oakwood Series 6 Brochure	"micro-chip and an associated wire antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process***	See '207 patent, claim 13 for Oberthur's

electronic element is a micro-chip and an associated wire antenna.	Cumulative JP '214 Cumulative '201 patent	***as recited in claim 1, "wherein electronic element is a micro-chip and an associated wire antenna."*** Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3. Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F.	reply.
12. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated circuit board antenna.	1987 Oakwood Series 6 Brochure Cumulative JP '214 Cumulative '201 patent	"micro-chip and an associated circuit board antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a micro-chip and an associated circuit board antenna."*** Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3. Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F.	See '207 patent, claim 14 for Oberthur's reply.
13. The process for incorporating at least one electronic element in the	1987 Oakwood Series 6 Brochure	"read/write integrated chip and an associated antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading	

manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a read/write integrated chip and an associated antenna.	Cumulative JP '214 Cumulative '201 patent	"Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a read/write chip and an associated antenna."*** Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3. Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F and col. 1, lines 50-51 ("Smart Cards are used with a reader/writer that includes an interface ('external interface') that is used to transmit information to or from the Smart Card.").	See '207 patent, claim 15 for Oberthur's reply.
14. A plastic card constructed in accordance with claim 1.	1987 Oakwood Series 6 Brochure Cumulative JP '214	"plastic card" – card set illustrated in OS6B on p. 4 (Sharinn Ex. 10). Cumulative Card illustrated in figures of JP '214 (Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-4).	
15. A hot lamination process for the manufacture of plastic cards, said process comprising the steps of:	1987 Oakwood Sales Brochure	"A hot lamination process for the manufacture of plastic cards" – "Oakwood has developed a unique lamination cycle for the highest quality bank and credit card manufacturing producing a well laminated structure ….	

		The temperature of all platens is controlled individually to provide uniform heating throughout the press." (Sharinn Ex. 11, OSB at 6).	
	Cumulative JP '214	Cumulative "Japanese Patent '214 taught a process for forming a smart card which included the steps of laminating with heat and pressure an assembly which included an IC chip 11 and a thin coil 12 (an antenna)." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(a) providing first and second plastic core sheets;	1987 Oakwood Series 6 Brochure	"first and second plastic core sheets" –- second opaque plastic layer and substrate beneath inductive codings (Sharinn Ex. 10, OS6B at 4, see illustration).	
	Cumulative JP '214	Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(b) positioning at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets	1987 Oakwood Series 6 Brochure	"positioning …" – inductive coils are illustrated as being positioned between second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration).	

to form a layered core;	1987 Oakwood Series 6 Brochure	"electronic element" – inductive codings or microchip (Sharinn Ex. 10, OS6B at 4, see illustration and text under heading "Machine Reading Applications"). ***This reference does not disclose an electronic element.*** • See the '207 patent, claim 1, preamble for explanation.	See '207 patent, claim 16 for Oberthur's reply.
	1987 Oakwood Series 6 Brochure	"in the absence of a non-electronic carrier" – inductive codings are illustrated with no protection (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference does not teach positioning an electronic element "in the absence of a non-electronic carrier"*** • There is no evidence that the illustration cited in this reference does not include a cavity or protective layer for protecting the inductive codings from heat and pressure during the lamination process. • The conclusory statements provided by Oberthur are not sufficient to show that this	See '207 patent, claim 16 for Oberthur's reply.

	1987 Oakwood Series 6 Brochure	illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way. "directly" – inductive coils are in immediate physical contact with second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference also does not teach positioning an electronic element "directly between said first and second plastic core sheets"*** • Again, there is no evidence to show that the illustration cited in this reference positions the inductive codings directly between plastic core sheets. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element.	See '207 patent, claim 16 for Oberthur's reply.

		• The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way.	
	1987 Oakwood Series 6 Brochure	"layered core" – second opaque plastic layer, inductive codings and substrate form the "core" (Sharinn Ex. 10, OS6B at 4, see illustration).	
	Cumulative JP '214	Cumulative "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:	1987 Oakwood Series 6 Brochure	"positioning said core in a laminator apparatus" – second opaque plastic layer, inductive codings and substrate can be positioned in the Series 6 laminator: "Many of the more sophisticated cards are made possible due only to the flexibility of the heat and pressure system which is a major feature of the Series 6 Laminators." (Sharinn Ex. 10, OS6B at 3, 4 see illustration).	
	1987 Oakwood Series 6 Brochure	"heat and pressure cycle" – "heat and pressure are applied" to second opaque plastic layer, inductive codings and substrate (Sharinn Ex. 10, OS6B at 3).	

	Cumulative JP '214	Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
(i) heating said core in said laminator, in the presence of a minimal first ram pressure, to a temperature which causes controlled flow of said plastic which makes up said first and second plastic core sheets;	1987 Oakwood Sales Brochure Cumulative JP '214 1987 Oakwood Sales Brochure Cumulative 1991 Oakwood Instruction Manual	"heating said core" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58). "minimal first ram pressure" – Sharinn Ex. 11, OSB at 6, see initial "P.V.C. Press." Ramp up in illustration. Cumulative Sharinn Ex. 12, OIM at 6 ("Low pressure is applied to the material during the heating stage to achieve lamination.").	

	1987 Oakwood Sales Brochure Cumulative 1991 Oakwood Instruction Manual	"controlled flow of said plastic" – inherent teaching that during the ramp up of temperature the plastic will "flow" (Sharinn Ex. 11, OSB at 6, see initial "P.V.C. Press." ramp up in illustration). Cumulative "controlled flow of said plastic" – "Actual lamination will take place when the material has reached a molten stage at very low pressures." (Sharinn Ex. 12, OIM at 6).	 See '207 patent, claim 16.
(ii) applying a second pressure uniformly across said core for encapsulating said at least one electronic element within said controlled flow plastic;	1987 Oakwood Sales Brochure	"applying a second pressure" – "P.V.C. Press." Curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). ***This reference does not teach applying a second pressure at the lamination temperature for encapsulating the electronic element*** • See '207 patent, claim 16, element (c)(ii). ***The second pressure tought by this reference is applied after encapsulation of the electronic element*** • See '207 patent, claim 16, element	 See '207 patent, claim 16 for Oberthur's reply. See '207 patent, claim 16 for Oberthur's reply.

		(c)(ii).	
	1987 Oakwood Sales Brochure	"uniformly across said core" – "Precise, uniform pressure distribution over the whole platan eliminating pressure losses at the edges and corners." (Sharinn Ex. 11, OSB at 1).	
	1987 Oakwood Series 6 Brochure	"encapsulating said at least one electronic element" – during lamination inductive codings are enclosed by second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***The illustration cited in this reference does not teach the process of encapsulating the electronic element*** • See '207 patent, claim 16, element (c)(ii).	See '207 patent, claim 16 for Oberthur's reply.
	Cumulative JP '214	Cumulative "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7,Office Action mailed 12/6/00, see OCS_C_045446-58).	
(iii) subsequently cooling said core in conjunction	1987 Oakwood Sales Brochure	"cooling . . . in conjunction with the concurrent application of a third	

with the concurrent application of a third pressure uniformly across said core, said core including and upper and lower surfaces.	1987 Oakwood Sales Brochure	pressure" – "P.V.C. Temp." and "P.V.C. Press." curves of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). "uniformly across said core" – "Precise, uniform pressure distribution over the whole platen eliminating pressure losses at the edges and corners." (Sharinn Ex. 11, OSB at 1).	
16. The method as recited in claim 16 wherein said first and second core layers are devoid of any appreciable cutouts.	1987 Oakwood Series 6 Brochure Cumulative JP '214	"first and second core layers are devoid of any appreciable cutouts" – second opaque plastic layer and substrate beneath the inductive codings (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference does not teach a configuration where core layers are devoid of cutouts*** • See '207 patent, claim 17. Cumulative Plastic films 14 are devoid of any appreciable cutouts. (Sharinn Ex. 6 and Ex. 24, JP '214, Figs. 1-4).	See '207 patent, claim 17 for Oberthur's reply.

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Reference Key:

- 1987 Oakwood Series 6 Brochure ("OS6B")
- 1987 Oakwood Sales Brochure ("OSB")
- OS6B and OSB collectively referred to as the "Oakwood Reference"
- 1991 Oakwood Series 6 Instruction Manual ("OIM")
- Templeton, Jr. et al., U.S. Patent No. 5,519,201 (" '201 patent")
- Lyszczarz, U.S. Patent No. 4,897,533 (" '533 patent")
- Hida et al., U.S. Patent No. 4,841,134 (" '134 patent")
- Japanese Patent Application Publication H6-176214 ("JP '214")
- UK 2,279,610 ("UK '610")
- UK 2,294,899 ("UK '899")
- UK 2,225,283 ("UK '283")

Claims (missing claim elements are highlighted in green or red)	**Prior Art**	**Application of Prior Art** (missing claim elements are highlighted in green or red)	**Oberthur's Reply**
1. A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:	JP '214	"electronic element" – "Japanese Patent '214 taught a process for forming a smart card which included the steps of laminating with heat and pressure an assembly which included an IC chip 11 and a thin coil 12 (an antenna)." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	

	1987 Oakwood Series 6 Brochure	"electronic element" – inductive codings or microchip (Sharinn Ex. 10, OS6B at 4, see illustration and text under heading "Machine Reading Applications"). ***This reference does not disclose an electronic element.*** See the '207 patent, claim 1, preamble for explanation. ***This reference does not teach how to incorporate an electronic element in the manufacture of a plastic card*** See '207 patent, claim 1.	See the '207 patent, claim 1 for Oberhtur's reply. See '207 patent, claim 1 for Oberthur's reply.
(a) providing first and second plastic core sheets;	JP '214 1987 Oakwood Series 6 Brochure	"first and second plastic core sheets" – "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58). "first and second plastic core sheets" – second opaque plastic layer and substrate beneath inductive codings (Sharinn Ex.10, OS6B at 4, see illustration).	
(b) positioning said at least one electronic element in the absence of a non-electronic carrier	JP '214	"positioning …" – "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 Ex. 24, JP '214; Sharinn Ex. 7, Office	

directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;	1987 Oakwood Series 6 Brochure	Action mailed 12/6/00, see OCS_C_045446-58). "positioning …" – inductive codings are illustrated as being positioned between second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration).	
	1987 Oakwood Series 6 Brochure	"in the absence of a nonelectronic carrier" – inductive codings are illustrated with no protection (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference does not teach positioning an electronic element "in the absence of a non-electronic carrier"*** • There is no evidence that the illustration cited in this reference does not include a cavity or protective layer for protecting the inductive codings from heat and pressure during the lamination process. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element.	See '207 patent, claim 1 for Oberthur's reply.

	1987 Oakwood Series 6 Brochure	• The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way. "directly" – inductive codings are in immediate physical contact with second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference also does not teach positioning an electronic element "directly between said first and second plastic core sheets"*** • Again, there is no evidence to show that the illustration cited in this reference positions the inductive codings directly between plastic core sheets. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element. • The picture alone is insufficient to	See '207 patent, claim 1 for Oberthur's reply.

		enable a person having ordinary skill to laminate a card in such a way.	
	1987 Oakwood Series 6 Brochure	"core" – second opaque plastic layer, inductive codings and substrate form the "core" (Sharinn Ex. 10, OS6B at 4, see illustration).	
	1987 Oakwood Series 6 Brochure	"a pair of inner and outer surfaces of said core" – outside surface of second opaque plastic layer and outside surface of substrate are illustrated (Sharinn Ex. 10,OS6B at 4, see illustration).	
(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure cycle, said heat and pressure cycle comprising the steps of:	JP '214	"positioning said core in a laminator apparatus …" – "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
	1987 Oakwood Series 6 Brochure	"positioning said core in a laminator apparatus" – second opaque plastic layer, inductive codings and substrate can be positioned in the Series 6 laminator: "Many of the more sophisticated cards are made possible due only to the flexibility of the heat and pressure system which is a major feature of the Series 6	

		Laminators." (Sharinn Ex. 10, OS6B at 3, 4 see illustration).	
	1987 Oakwood Series 6 Brochure	"heat and pressure cycle" –"[h]eat and pressure are applied" to second opaque plastic layer, inductive codings and substrate (Sharinn Ex. 10, OS6B at 3).	
(i) heating said core for a first period of time;	JP '214	"heating said core for a first period of time" – "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
	1987 Oakwood Sales Brochure	"heating said core for a first period of time" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). **This reference teaches applying a pressure phase first.** • See '207 patent, claim 1, element (c)(i).	See '207 patent, claim 1 for Oberthur's reply.
(ii) applying a first pressure to said core for a second period of time such that said at least one	JP '214	"applying a first pressure … for a second period of time" – "The assembly was disposed in a press and heat and pressure were applied in order to laminate the	

electronic element is encapsulated by said core;	1987 Oakwood Sales Brochure	layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7,Office Action mailed 12/6/00, see OCS_C_045446-58). "applying a first pressure … for a second period of time" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6 see diagram). ***This reference teaches applying a pressure phase first, then applying a heating phase*** ***This reference also teaches encapsulating an electronic element during the heating phase, not the pressure phase.*** • See '207 patent, claim 1, element (c)(ii).	See '207 patent, claim 1 for Oberthur's reply. See '207 patent, claim 1 for Oberthur's reply.
(iii) cooling said core while applying a second pressure to said core, the second pressure being at least 10% greater than the first pressure; and	UK '610 UK '283	"cooling … while applying a second pressure" – "Subsequent to the application of this heat and pressure, the pressure was maintained while the card was allowed to cool in the press, see page 11, line 16-p. 12, line 12. The reference made clear that in order to avoid damaging the integrated circuit which was being encapsulated that one would have heated the assembly, then applied	

		heat and pressure to the assembly in the press and then cooled the assembly while pressure was maintained. Clearly, one viewing the same would have understood the heat and pressure as well as cooling under pressure would have been performed when laminating the card with the integrated circuit therein." (Sharinn Ex. 18, UK '610; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91); "While it is believed that the reference to UK '610 suggested that one would have ramped up the pressure during the laminating operation, to further evidence that the highest amount of pressure would have been applied when the assembly was cooled, the reference to UK '283 is cited. UK '283 is manufacturing an integrated circuit card where the assembled layers (which included thin plastic layers which had printing on the layers as well as in integrated circuit therein) were laminated together in a press. The reference taught that the press would have been preheated, the pressure applied and then the assembly removed or the assembly would have been preheated and the pressure applied in steps with the highest pressure applied while the assembly was being cooled in the press, see page 11, lines 3-	

		13." (Sharrin Ex. 20, UK '283; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91).	
	1987 Oakwood Sales Brochure	"cooling … while applying a second pressure" – "P.V.C. Temp." and "P.V.C. Press." curves of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
	1987 Oakwood Sales Brochure	"said second pressure being at least 10% greater than said first pressure" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
		This reference fails to indicate whether the second pressure is at least 10% greater than said first pressure • See '207 patent, claim 7.	The lamination cycle diagram "speaks for itself" and plainly illustrates a cooling pressure that is well beyond 10% greater than the heating pressure. Indeed, the cooling pressure is illustrated as being approximately twice as great as the heating pressure. Moreover, Leighton's reliance on Mr. Smith's deposition testimony is misplaced. Mr. Smith testified that the tick marks in the diagram do not represent "particular" numerical values for temperature and pressure; however, he did not negate that each tick mark represented a "unit" of temperature and pressure. Thus, two

			tick marks represent twice the pressure (or temperature) of one tick mark.
(d) milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said at least on said electronic element.	'201 patent	"milling a region of said core to a controlled depth . . . to form a cavity which exposes . . . one contact pad of . . . one electronic device" – "[A]n inductive coil 201 was formed upon a plastic substrate 202 of PVC for example. Onto the substrate 202 one laminated a second substrate 203 which covered and encapsulated the coil 201. The reference taught subsequent to the lamination operation one milled out the contact holes 203b through the substrate in locations where contact pads 201a of the inductive coil are in order to facilitate electrical contact with the inductive coil which was embedded within the plastic sheets. See column 7, lines 6-17." (Sharinn Ex. 13, '201 patent; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
	'201 patent	"milling a region of said core to a controlled depth … to form a cavity which exposes … one contact pad of said … electronic element" – "electrical interconnection has been made by forming holes through the main body of the card, the holes extending between the respective electrical contacts of the devices." (Sharinn Ex. 13, '201 patent,	A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and the '201 patent because the '201 patent teaches milling a hole into a previously laminated plastic card body and the Oakwood Reference teaches a process for manufacturing such a card body.

		col. 2, lines 27-30); "The contact holes 203b and cavity hole 203a can be formed … by, for instance, … milling." (Sharinn Ex. 13, '201 patent, col. 7, lines 10-16).	
2. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said laminator apparatus has first and second laminating plates, at least one of said first and second laminating plates having a matte finish for creating a textured surface on at least one of said outer surfaces of said core.	UK '899	"at least one of said first and second laminating plates having a matte finish" – "[I]n the art of manufacturing a smart card where an integrated circuit was disposed within the card, it was known at the time the invention was made to provide the exterior of the card with a matte finish thereon in order to reduce the spectral reflection as suggested by UK '899, see page 4, lines 4-6." (Sharinn Ex. 19, UK '899; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
	'134 patent	"at least one of said first and second laminating plates having a matte finish" – "[S]tainless steel plates 63a subjected to matte working by a sand matte were superposed thereon to carry out hot pressing …. As a result, a sheet for reinforcement 51 applied with matte working on both surfaces of the substrate 61 … was obtained. Matte working can be applied on any desired surface by replacing the above stainless steel plates 63a with the desired plate." (Sharinn Ex. 16, '134 patent, col. 12, lines 19-27).	See '207 patent, claim 2.

3. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 2, wherein each of said first and second laminating plates has a matte finish for creating said textured surface on both of said outer surfaces of said core.	UK '899	"each of said first and second laminating plates has a matte finish" –"[I]n the art of manufacturing a smart card where an integrated circuit was disposed within the card, it was known at the time the invention was made to provide the exterior of the card with a matte finish thereon in order to reduce the spectral reflection as suggested by UK '899, see page 4, lines 4-6." (Sharinn Ex. 19, UK '899; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
	'134 patent	"each of said first and second laminating plates has a matte finish" – "[S]tainless steel plates 63a subjected to matte working by a sand matte were superposed thereon to carry out hot pressing …. As a result, a sheet for reinforcement 51 applied with matte working on both surfaces of the substrate 61 … was obtained. Matte working can be applied on any desired surface by replacing the above stainless steel plates 63a with the desired plate." (Sharinn Ex. 16, '134 patent, col. 12, lines 19-27).	See '207 patent, claim 3.
4. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1,		"polyvinyl chloride" – "[T]he references as set forth above suggested the use of PVC and/or polyester materials and one skilled in the art would have determined the suitable thickness for the material	

where in said first and second plastic core sheets are made from a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene-styrene, each of said sheets having a thickness in the range of 0.007 to 0.024 inch.	1987 Oakwood Series 6 Brochure	through routine experimentation." (Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58). "polyvinyl chloride" – second opaque plastic layer and substrate beneath inductive codings are made of plastic (P.V.C.) (Sharinn Ex. 10, OS6B at 3, 4, see illustration). ***This reference fails to teach a process where the plastic core sheets are made of a material selected from the group consisting of polyvinyl chloride, polyester, and acrylonitrile-butadiene.*** ***This reference fails to disclose a thickness range of plastic sheets to be used***	See '207 patent, claim 4 for Oberthur's reply.
	'533 patent	"thickness in the range of 0.007 to 0.024 inch" – unpatentable modification of prior art dimensions ("The plastic substrate 2 of the card is … preferably PVC, with a thickness of 0.0265 inch." (Sharinn Ex. 15, '533 patent, col.4, lines 12-21)).	
5. The process for incorporating at least one electronic element in the manufacture of a plastic		"a thickness of approximately 0.0125 inch" –"[T]he references as set forth above suggested the use of PVC and/or polyester materials and one skilled in the	

card as recited in claim 4, wherein said first and second plastic core sheets have a thickness of approximately 0.0125 inch.	'533 patent	art would have determined the suitable thickness for the material through routine experimentation." (Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58). "a thickness of approximately 0.0125 inch" – unpatentable modification of prior art dimensions ("The plastic substrate 2 of the card is … preferably PVC, with a thickness of 0.0265 inch." (Sharinn Ex. 15, '533 patent, col.4, lines 12-21)).	See '207 patent, claim 5.
7. A process as recited in claim 1 having a further step following step(c), said step comprising: positioning a layer of overlaminate film on at least one of said surfaces of said core, positioning said overlaminate film and said core in a laminator apparatus and laminating said layer of overlaminate film to said core in said laminator to thereby form a sheet of plastic card stock.	JP '214 1987 Oakwood Series 6 Brochure Cumulative 1991 Oakwood	"overlaminate film" – "[T]he references as set forth above suggested the use of multiple films over the chip, for example Japanese Patent '214 suggested the use of multiple films 14 and 15 over the assembly." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58). "overlaminate film" – second opaque plastic layer, inductive codings, substrate and bottom plastic opaque layer can be positioned in the Series 6 laminator (Sharinn Ex. 10, OS6B at 3, 4, see illustration). Cumulative Sharinn Ex. 12, OIM at 1 ¶ 1 ("Combine	

	Instruction Manual	some of these components with customized printed core and overlay materials…").	
8. The process of claim 7, further comprising the step of coating said at least one surface of said core with a layer of ink prior to positioning said overlaminate film on said at least one surface of said core.	UK '899	"coating … with a layer of ink" – "[I]t was well known at the time the invention was made to provide printed information upon the same where the printed information would have been provided upon the layers prior to the pressing operation as in printed information 8 and additional information would have been printed upon the cards exterior after formation as in image 10 [in UK '899, see page 4, lines 4-6]." (Sharinn Ex. 19, UK '899; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
	1991 Oakwood Instruction Manual	"coating … with a layer of ink" – "Combine some of these components with customized printed core and overlay materials …" (Sharinn Ex. 12, OIM at 1 ¶ 1).	See '207 patent, claim 1.
	Cumulative '533 patent	Cumulative "The backside of the substrate … also has printed information thereon formed by a conventional offset lithography process, for example." (Sharinn Ex. 15, '533 patent, col. 3, lines 60-63).	
9. The process for incorporating at least one	UK '610	"temperature in the range of 275.degree. F. to 400.degree. F." – "UK '610	

electronic element in the manufacture of a plastic card as recited in claim 1, wherein said core is heated in step (c)(i) to a temperature in the range of 275° F. to 400° F. and said first period of time is at least five (5) minutes.		suggested that one skilled in the art would have increased the pressure after increasing the temperature (ramped the same up). One skilled in the art would have optimized the specific pressure used in order to achieve a good bond without disrupting the ability of the circuit to operate properly." (Sharinn Ex. 18, UK '610; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91).	
	1987 Oakwood Series 6 Brochure	"temperature in the range of 275° F. to 400° F." – laminating temperature for the Series 6 laminator is 392 degree F. which is within the recited temperature range of "275° F. to 400° F." (Sharinn Ex. 10, OS6B at 3).	
	Cumulative 1991 Oakwood Instruction Manual	Cumulative "temperature in the range of 275° F. to 400° F." – unpatentable modification of prior art temperatures ("LAMINATING TEMPERATURE 90 – 200 DEGREES C" (Sharinn Ex. 12, OIM at 6, 3.3B)).	See '207 patent, claim 8.
	Cumulative '533 patent	Cumulative "the application of heat … at 265° platen temperature" (Sharinn Ex. 15, '533 patent, col. 4, line 33).	
	1987 Oakwood	"said first period of time is at least five	

	Sales Brochure	(5) minutes" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram and horizontal axis of diagram indicating time in minutes ("Mins") (Sharinn Ex. 11, OSB at 6, see diagram). ***This reference fails to identify the length of time at which the temperature is held*** • See '207 patent, claim 8.	See '207 patent, claim 8 for Oberthur's reply.
12. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said step (d) is carried out utilizing a coating technique selected form the group consisting of silk screen printing, offset printing, letterpress printing, screen printing, roller coating, spray printing, and litho-printing.	1991 Oakwood Instruction Manual	"coating technique selected from the group consisting of …" – "It would have been within the purview of the ordinary artisan to select suitable printing techniques from those which were readily available to the artisan and the specified printing techniques claimed are taken as conventional in the art of making smart cards." (Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58). "coating technique selected from the group consisting of …" – "Combine some of these components with customized printed core and overlay materials …." (Sharinn Ex. 12, OIM at 1, ¶ 1). ***This reference fails to disclose a process where the core is coated using a coating technique selected from the group consisting of silk screen printing, offset***	See '207 patent, claim 11 for Oberthur's reply.

		printing, letterpress printing, screen printing, roller coating, spray printing, and litho-printing.	
	Cumulative '533 patent	Cumulative "The backside of the substrate … also has printed information thereon formed by a conventional offset lithography process, for example." (Sharinn Ex. 15, '533 patent, col. 3, lines 60-63).	
15. A process as recited in claim 1 comprising the further step of inserting a second electronic element into said cavity, the second electronic element being in electrical communication with the at least one electronic element.		"inserting a second electronic element into said cavity, the second electronic element being in electrical communication with the at least one electronic element" – "Templeton taught one would have provided an electrical contact in the cavity formed by milling." (Sharinn Ex. 13, '201 patent; Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58).	
	'201 patent	"inserting a second electronic element into said cavity, the second electronic element being in electrical communication with the at least one electronic element" – "electrically conductive plugs 205 inserted into contact holes 203*b* …" (Sharinn Ex. 13, '201 patent, col. 7, lines 45-59, and Figs. 2J, 2K and 2L, items 203*b* and 205).	A person having ordinary skill would be motivated to combine the teachings of the Oakwood Reference and the '201 patent because the '201 patent teaches milling a hole and inserting a "second electronic element" (conductive plug) into that hole of a previously laminated plastic card body and the Oakwood Reference teaches a process for manufacturing such a card body.

16. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a micro-chip and an associated circuit board antenna or an associated wire antenna.	1987 Oakwood Series 6 Brochure	"micro-chip and an associated circuit board antenna or an associated wire antenna" – "[O]ne skilled in the art would have understood what kind of chips would have been useful for the manufacture of cards." (Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58). "micro-chip and an associated circuit board antenna or an associated wire antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a micro-chip and an associated wire antenna."*** ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a micro-chip and an associated circuit board antenna."***	See '207 patent, claim 13 and 14 for Oberthur's reply.
	Cumulative JP '214	Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3.	
	Cumulative '201 patent	Cumulative Sharinn Ex. 13, '201 patent, reference	

		numerals 201 and 202, Figs. 2A-2F.	
17. The process for incorporating at least one electronic element in the manufacture of a plastic card as recited in claim 1, wherein said at least one electronic element is a read/write integrated chip and an associated antenna.	1987 Oakwood Series 6 Brochure	"read/write integrated chip and an associated antenna" – "[O]ne skilled in the art would have understood what kind of chips would have been useful for the manufacture of cards." (Sharinn Ex. 7, Office Action mailed 12/6/00, see OCS_C_045446-58). "read/write integrated chip and an associated antenna" – Sharinn Ex. 10, OS6B at 4, see text under heading "Machine Reading Applications". ***This reference fails to disclose a process as recited in claim 1, "wherein electronic element is a read/write chip and an associated antenna."***	See '207 patent, claim 15 for Oberthur's reply.
	Cumulative JP '214	Cumulative Sharinn Ex. 6 and Ex. 24, JP '214, reference numerals 11 and 12, Figs. 1-3.	
	Cumulative '201 patent	Cumulative Sharinn Ex. 13, '201 patent, reference numerals 201 and 202, Figs. 2A-2F and col. 1, lines 50-51 ("Smart Cards are used with a reader/writer that includes an interface ('external interface') that is used to transmit information to or from the Smart Card.").	

19. The process according to claim 1, wherein said core is heated in step (c)(ii).	1987 Oakwood Sales Brochure	"core is heated in step (c)(ii)" – "P.V.C. Temp." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
20. A process for incorporating at least one electronic element in the manufacture of a plastic card, comprising the steps of:	JP '214 1987 Oakwood Series 6 Brochure	"electronic element" – "Japanese Patent '214 taught a process for forming a smart card which included the steps of laminating with heat and pressure an assembly which included an IC chip 11 and a thin coil 12 (an antenna)." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91). "electronic element" – inductive codings or microchip (Sharinn Ex. 10, OS6B at 4, see illustration and text under heading "Machine Reading Applications"). ***This reference does not disclose an electronic element.*** • See the '207 patent, claim 1, preamble for explanation. ***This reference does not teach how to incorporate an electronic element in the manufacture of a plastic card*** • See '207 patent, claim 1.	See the '207 patent, claim 1 for Oberhtur's reply. See '207 patent, claim 1 for Oberthur's reply.
(a) providing first and	JP '214	"first and second plastic core sheets" –	

second plastic core sheets;		"The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91).	
	1987 Oakwood Series 6 Brochure	"first and second plastic core sheets" – second opaque plastic layer and substrate beneath inductive codings (Sharinn Ex.10, OS6B at 4, see illustration).	
(b) positioning said at least one electronic element in the absence of a non-electronic carrier directly between said first and second plastic core sheets to form a core, said plastic core sheets defining a pair of inner and outer surfaces of said core;	JP '214	"positioning …" – "The IC chip 11 and antenna 12 were disposed unsupported between plastic films 14." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91).	
	1987 Oakwood Series 6 Brochure	"positioning …" – inductive codings are illustrated as being positioned between second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration).	
	1987 Oakwood Series 6 Brochure	"in the absence of a nonelectronic carrier" – inductive codings are illustrated with no protection (Sharinn Ex. 10, OS6B at 4, see illustration).	
		This reference does not teach positioning an electronic element "in the absence of a non-electronic carrier"	See '207 patent, claim 1 for Oberthur's reply.

	1987 Oakwood Series 6 Brochure	• There is no evidence that the illustration cited in this reference does not include a cavity or protective layer for protecting the inductive codings from heat and pressure during the lamination process. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill in the art to laminate a card in such a way. "directly" – inductive codings are in immediate physical contact with second opaque plastic layer and substrate (Sharinn Ex. 10, OS6B at 4, see illustration). ***This reference also does not teach positioning an electronic element "directly between said first and second plastic core sheets"***	See '207 patent, claim 1 for Oberthur's reply.

		• Again, there is no evidence to show that the illustration cited in this reference positions the inductive codings directly between plastic core sheets. • The conclusory statements provided by Oberthur are not sufficient to show that this illustration discloses this claim element. • The picture alone is insufficient to enable a person having ordinary skill to laminate a card in such a way.	
	1987 Oakwood Series 6 Brochure	"core" – second opaque plastic layer, inductive codings and substrate form the "core" (Sharinn Ex. 10, OS6B at 4, see illustration).	
	1987 Oakwood Series 6 Brochure	"a pair of inner and outer surfaces of said core" – outside surface of second opaque plastic layer and outside surface of substrate are illustrated (Sharinn Ex. 10,OS6B at 4, see illustration).	
(c) positioning said core in a laminator apparatus, and subjecting said core to a heat and pressure	JP '214	"positioning said core in a laminator apparatus …" – "The assembly was disposed in a press and heat and pressure were applied in order to laminate the	

cycle, said heat and pressure cycle comprising the steps of:		layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91).	
	1987 Oakwood Series 6 Brochure	"positioning said core in a laminator apparatus" – second opaque plastic layer, inductive codings and substrate can be positioned in the Series 6 laminator: "Many of the more sophisticated cards are made possible due only to the flexibility of the heat and pressure system which is a major feature of the Series 6 Laminators." (Sharinn Ex. 10, OS6B at 3, 4 see illustration).	
	1987 Oakwood Series 6 Brochure	"heat and pressure cycle" –"[h]eat and pressure are applied" to second opaque plastic layer, inductive codings and substrate (Sharinn Ex. 10, OS6B at 3).	
(i) heating said core for a first period of time;	JP '214	"heating said core for a first period of time" – "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91).	
	1987 Oakwood Sales Brochure	"heating said core for a first period of time" – "P.V.C. Temp." curve of the	

		"Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram). **This reference teaches applying a pressure phase first.** • See '207 patent, claim 1, element (c)(i).	See '207 patent, claim 1 for Oberthur's reply.
(ii) applying a first pressure to said core for a second period of time such that said at least one electronic element is encapsulated by said core;	JP '214 1987 Oakwood Sales Brochure	"applying a first pressure … for a second period of time"- "The assembly was disposed in a press and heat and pressure were applied in order to laminate the layers together to form the smart card." (Sharinn Ex. 6 and Ex. 24, JP '214; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91). "applying a first pressure … for a second period of time" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6 see diagram). ***This reference teaches applying a pressure phase first, then applying a heating phase*** ***This reference also teaches encapsulating an electronic element during the heating phase, not during the pressure phase.***	See '207 patent, claim 1 for Oberthur's reply. See '207 patent, claim 1 for Oberthur's reply.

		• See '207 patent, claim 1, element (c)(ii).	
(iii) cooling said core while applying a second pressure to said core, the second pressure being at least 10% greater than the first pressure.	UK '610 UK '283	"cooling … while applying a second pressure" – "Subsequent to the application of this heat and pressure, the pressure was maintained while the card was allowed to cool in the press, see page 11, line 16- p. 12, line 12. The reference made clear that in order to avoid damaging the integrated circuit which was being encapsulated that one would have heated the assembly, then applied heat and pressure to the assembly in the press and then cooled the assembly while pressure was maintained. Clearly, one viewing the same would have understood the heat and pressure as well as cooling under pressure would have been performed when laminating the card with the integrated circuit therein." (Sharinn Ex. 18, UK '610; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91); "While it is believed that the reference to UK '610 suggested that one would have ramped up the pressure during the laminating operation, to further evidence that the highest amount of pressure would have been applied when the assembly was cooled, the reference to UK '283 is cited.	

		UK '283 is manufacturing an integrated circuit card where the assembled layers (which included thin plastic layers which had printing on the layers as well as in integrated circuit therein) were laminated together in a press. The reference taught that the press would have been preheated, the pressure applied and then the assembly removed or the assembly would have been preheated and the pressure applied in steps with the highest pressure applied while the assembly was being cooled in the press, see page 11, lines 3-13." (Sharrin Ex. 20, UK '283; Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91).	
	1987 Oakwood Sales Brochure	"cooling … while applying a second pressure" – "P.V.C. Temp." and "P.V.C. Press." curves of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
	1987 Oakwood Sales Brochure	"said second pressure being at least 10% greater than said first pressure" – "P.V.C. Press." curve of the "Typical Lamination Cycles" diagram (Sharinn Ex. 11, OSB at 6, see diagram).	
		This reference fails to indicate whether the second pressure is at least 10%	The lamination cycle diagram "speaks for itself" and plainly illustrates a

		greater than said first pressure • See '207 patent, claim 7.	cooling pressure that is well beyond 10% greater than the heating pressure. Indeed, the cooling pressure is illustrated as being approximately twice as great as the heating pressure. Moreover, Leighton's reliance on Mr. Smith's deposition testimony is misplaced. Mr. Smith testified that the tick marks in the diagram do not represent "particular" numerical values for temperature and pressure; however, he did not negate that each tick mark represented a "unit" of temperature and pressure. Thus, two tick marks represent twice the pressure (or temperature) of one tick mark.
21. The process according to claims 20, further comprising: forming a cavity in said core.	'201 patent	"forming a cavity in said core" – Examiner repeated argument from previous Office Action: "Regarding claim[21] see the discussion on paper no. 5 for the formation of cards." (Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91). "forming a cavity in said core" – "forming holes through the main body of the card, the holes extending between the respective electrical contacts of the devices." (Sharinn Ex. 13, '201 patent, col. 2, lines 27-30); "The contact holes 203*b* and cavity hole 203*a* can be formed . . . by, for instance, . . . milling."	See '099 patent, claim 1.

		(Sharinn Ex. 13, '201 patent, col. 7, lines 10-16).	
22. The process according to claim 21, wherein the step of forming a cavity in said core comprises: after step (c), milling a region of said core to a controlled depth so as to form a cavity which exposes at least one contact pad of said at least one electronic element.	'201 patent	"milling a region of said core to a controlled depth . . . to form a cavity which exposes . . . one contact pad of . . . one electronic device" – Examiner repeated argument from previous Office Action: "Regarding claim[22] see the discussion on paper no. 5 for the formation of cards." (Sharinn Ex. 7, Office Action mailed 5/8/02, see OCS_C_045482-91). "milling a region of said core to a controlled depth . . . to form a cavity which exposes . . . one contact pad of . . . one electronic device" – "electrical interconnection has been made by forming holes through the main body of the card, the holes extending between the respective electrical contacts of the devices." (Sharinn Ex. 13, '201 patent, col. 2, lines 27-30); "The contact holes 203*b* and cavity hole 203*a* can be formed . . . by, for instance, . . . milling." (Sharinn Ex. 13, '201 patent, col. 7, lines 10-16).	See '099 patent, claim 1.
23. The process according to claim 22, further comprising: inserting a second	'201 patent	"inserting a second electronic element into said cavity, the second electronic element being in electrical communication with the at least one	See '367 patent, claim 15.

electronic element into said cavity, the second electronic element being in electrical communication with the at least one electronic element.		electronic element" – "electrically conductive plugs 205 inserted into contact holes 203*b* . . ." (Sharinn Ex. 13, '201 patent, col. 7, lines 45-59, and Figs. 2J, 2K and 2L, items 203*b* and 205).	